

FLIGHT

First Aero Weekly in the World.

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.

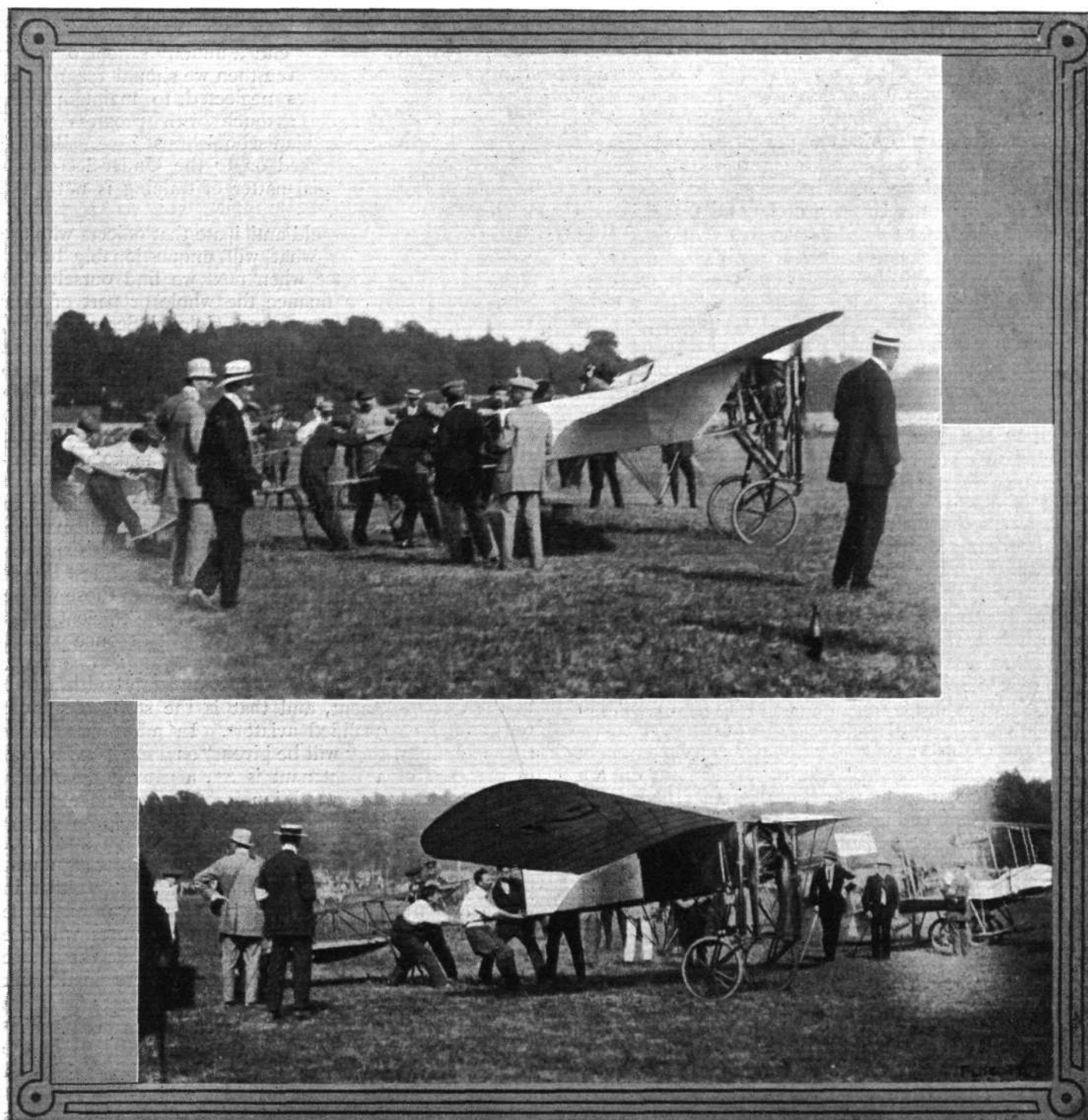
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DAILY MAIL CIRCUIT OF BRITAIN.—The two first off from Brooklands. At the top, "Beaumont" (Lieut. Conneau) on his Blériot, and below, Mr. H. J. D. Astley on his Birdling monoplane.

OUR PROGRESSIVE WAR OFFICE.

DISAPPOINTING is a mild term to apply to the terms of Colonel Seely's answer to the questions addressed to him by Mr. Arthur Lee on the subject of the War Office attitude towards aviation and the aeroplane. We had expected an important statement—one which should have conveyed the fact that even if the state of mind with which we are all too familiar had not undergone a complete reversal, would at least have led us to feel that the War Office had at last begun to show some sort of intelligent appreciation of what is required. But so far from that being the case, it is perfectly obvious that the Army Council, or that part of it which settles this particular detail of its policy, is still as stiff-necked as ever. Something it must do, for even an Army Council is amenable to public opinion in some slight degree, and if in this case it simply sat tight and declined altogether to touch the unclean thing—as the aeroplane is evidently thought to be—there would be too much said for the comfort and peace of mind of the distinguished officers who administer the details of our junior fighting service. However, on the principle of being thankful for small mercies, we may give a qualified welcome to the halting step forward which the Under-Secretary for War disclosed last week. But let us see how far this step carries us. To begin with, the question of offering a prize or prizes for aeroplanes suitable for military purposes is receiving "careful consideration"; but there are difficulties to be overcome, and, said the gallant Under-Secretary, "I am not yet in a position to make a statement on this point." It would be interesting to know just what these difficulties are. Do they consist in the ostrich-like refusal of some of the notoriously anti-progressive members of the Army Council to read the signs of the times? Or are they connected in any way with the parsimony of a Government which begrudges a few paltry thousands for the putting of our defensive Services in a state of at least as great efficiency as those of the Continent, but which is willing and eager to vote salaries to its supporters in the House of Commons? We give it up. But whatever the difficulties which hedge about the offer of a prize such as that which Mr. Arthur Lee had in mind, they do not appear to be insuperable on the other side of the Channel, for it is months since the French Minister of War announced a comprehensive prize scheme by means of which it was hoped to assist in the evolution of the ideal machine for military use. Because we thus put the prize scheme, which our own Government has "under consideration," first in the list, we do not desire it to be thought that we altogether blame our authorities for not taking this rather obvious course for the encouragement of inventors and constructors. Admittedly the prize scheme is a good one, but it is not the only way in which the desired end can be achieved. There are half a dozen other courses open to the authorities if they are sincerely wishful to keep abreast of the times, and, what is far more important, to make quite certain that a sudden emergency shall not find us unprepared. It is only that in this long drawn out "consideration" of things we discern the hand of the fossilised obstructionist, that we deplore the facts as they are. If only the Government showed that it had an alternative in its mind things would not be so bad, but so far as concerns any real desire to follow things up, we can only regard the official attitude as *non-possumus*.

Next we come to the vital question of the training of officers and men in the art of flying. Col. Seely tells

an expectant House that the Army Council has been carefully considering the number of trained observers necessary for our present war requirements, and has come to the conclusion that eighty to a hundred officers who are also pilots are required. Not being military experts we are content to take the figures of those who are, but it does seem to strike us that the numbers do not err on the side of generosity. Having settled on the numbers necessary, it manifestly becomes a question of securing proper training and practice for the selected officers. The statement that the Army Council is in negotiation with civilian schools is welcome, in that it indicates that the Council is fully alive to the advantages to be gained from having practically at its disposal the collective knowledge of the best of our flying men. No doubt in the end a military school of flying will be established, but even then we should regard it as unwise if the authorities neglected to maintain their advantage of the close touch with progress which association with the civilian schools must give. But the addendum which is tacked on to the Under-Secretary's statement regarding this matter of training is not quite such pleasant reading.

Certainly no one would anticipate that officers who are willing to qualify for what will unquestionably be the most hazardous service when next we find ourselves at war, would have to finance the whole or part of their training. But, unless we read Colonel Seely wrongly, this is precisely what is to happen. "As our present arrangements do not admit of opportunities of training so large a number, the Army Council is in communication with the various civilian schools of aviation in regard to the training of selected officers, and the terms they would consider sufficient, and it is proposed to make a grant-in-aid of the expenses of such training."

Those are the words of the Under-Secretary, and to us they convey the meaning that the State will make a benevolent grant to aid officers in meeting the expenses of their training. The spectacle of the wealthiest Power in the world bargaining and haggling with those whose sole wish it is to make themselves more efficient in its service would be humorous were it not at once painful and pathetic. There is one point, and one only, which can be regarded as completely satisfactory in the announcement, and that is the scale of pay to be granted to qualified aviators. In addition to their regimental pay, they will be given "engineer pay," which in the case of a lieutenant is 4s., a captain 6s., and a major 9s. per day. In addition, it is proposed to give such further pay or allowance as will, in the opinion of the Army Council, make the total remuneration adequate. That is good, but even so it hardly supplies an argument in favour of making the qualified aviator pay either in whole or part for his training. Of course, it might be said that the extra pay might tempt officers who are utterly unsuited for the rôle of aviator to take the course of instruction unless some restriction were made, but that is easily arranged without mulcting them in a substantial sum for educational purposes, which it is really up to the State to pay, inasmuch as it is in the interest of the State that we should have these men, and what is necessary is worth paying for.

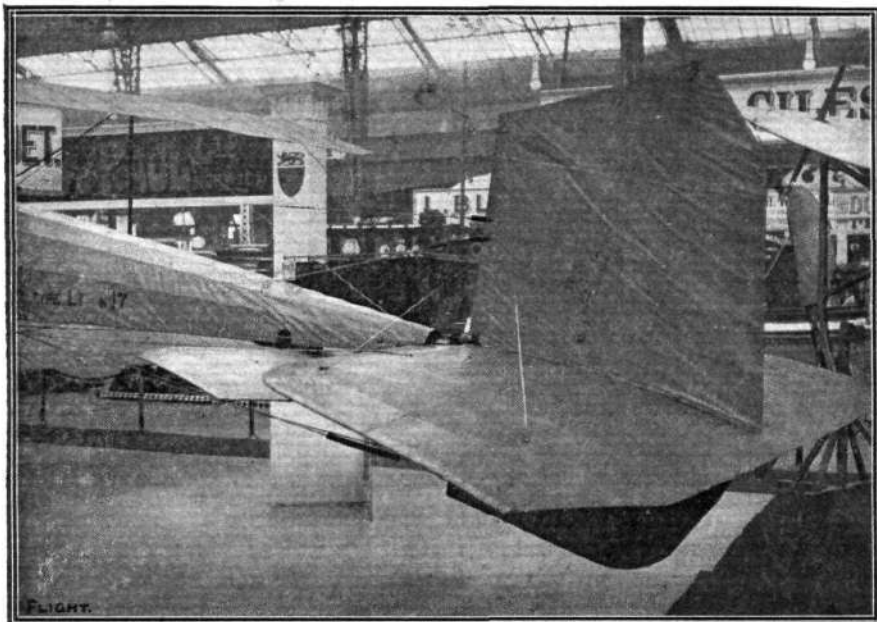
In conclusion, we cannot but express ourselves as deeply disappointed. We cannot see that the statement of policy carries us much farther forward, nor indeed does it hold out a great deal of promise for the future.

THE BREGUET AEROPLANE.

(Concluded from page 625.)

WHEN at rest the planes have an angle of incidence of about 11° , and the strength of the construction is such that under test a load of

with its wings thus folded. When we speak of a single row of struts it is necessary to observe that even this single row



Tail of the Breguet biplane.

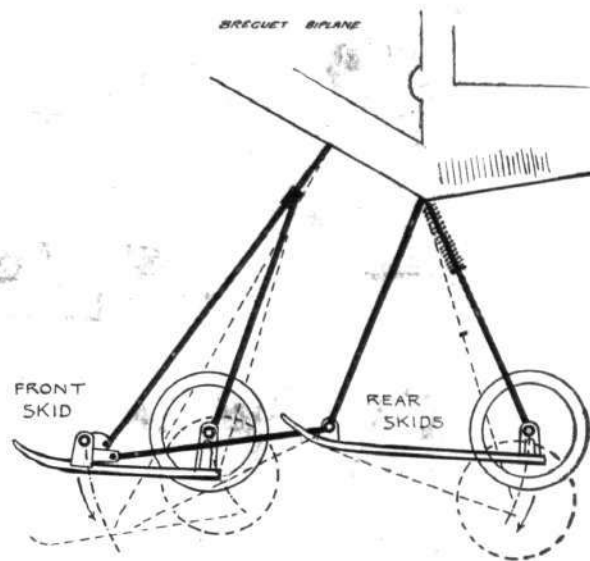
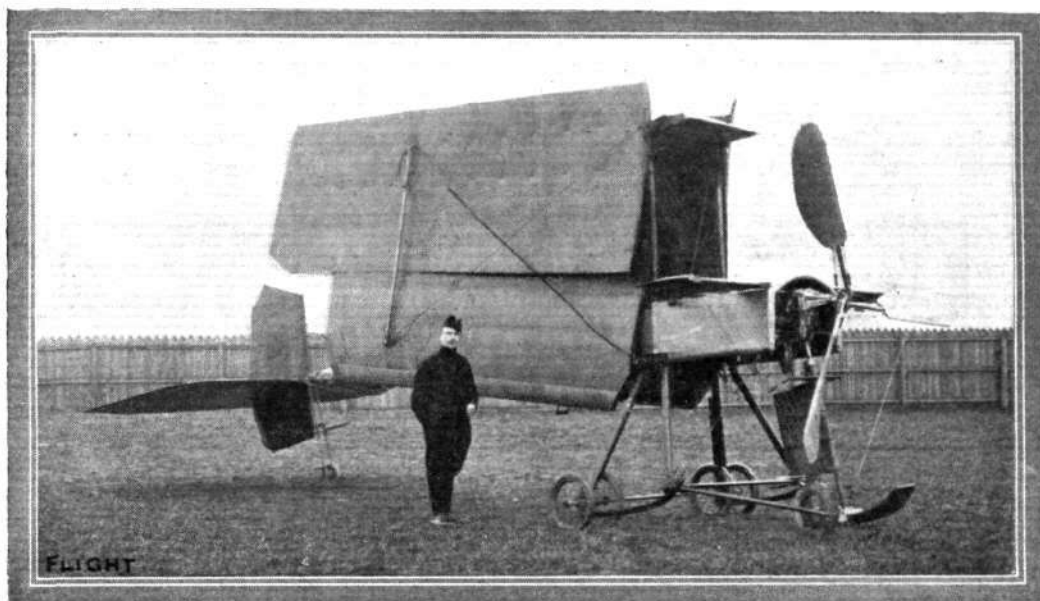


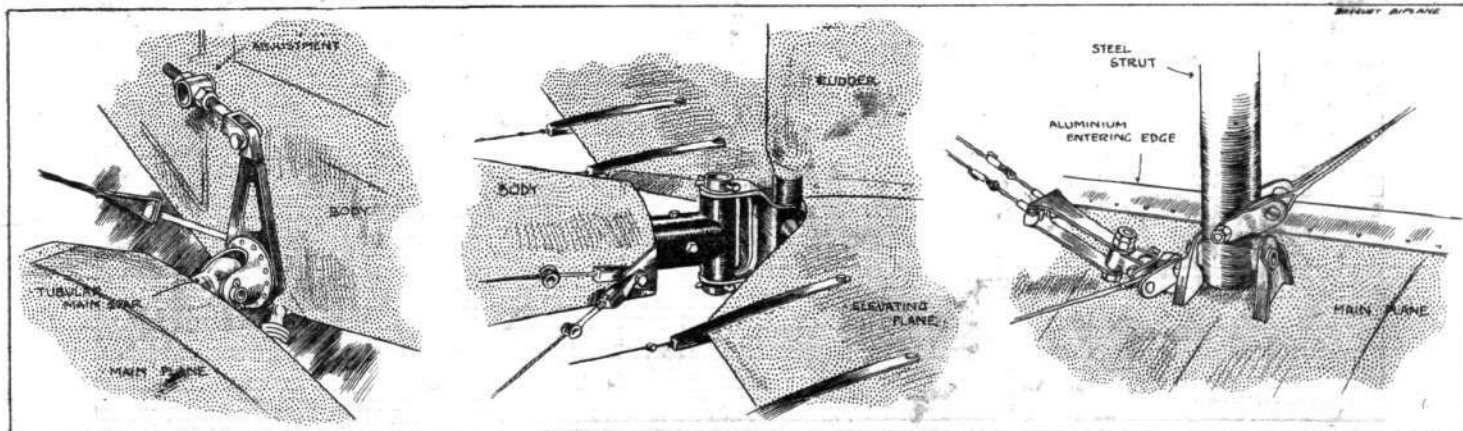
Diagram illustrating the suspension of the under-carriage on the Breguet biplane.

20 lbs. per sq. ft. reduces the angle of incidence to about 2° without permanently distorting any of the constructive details. Tests made by loading the wings with sand have been conducted officially at the Douai works. Of the importance of a variable angle of incidence in connection with the problem of variable speed our readers are already acquainted through our discussion of the subject in a series of articles entitled "Can we fly faster for less Power," which appeared in FLIGHT recently.

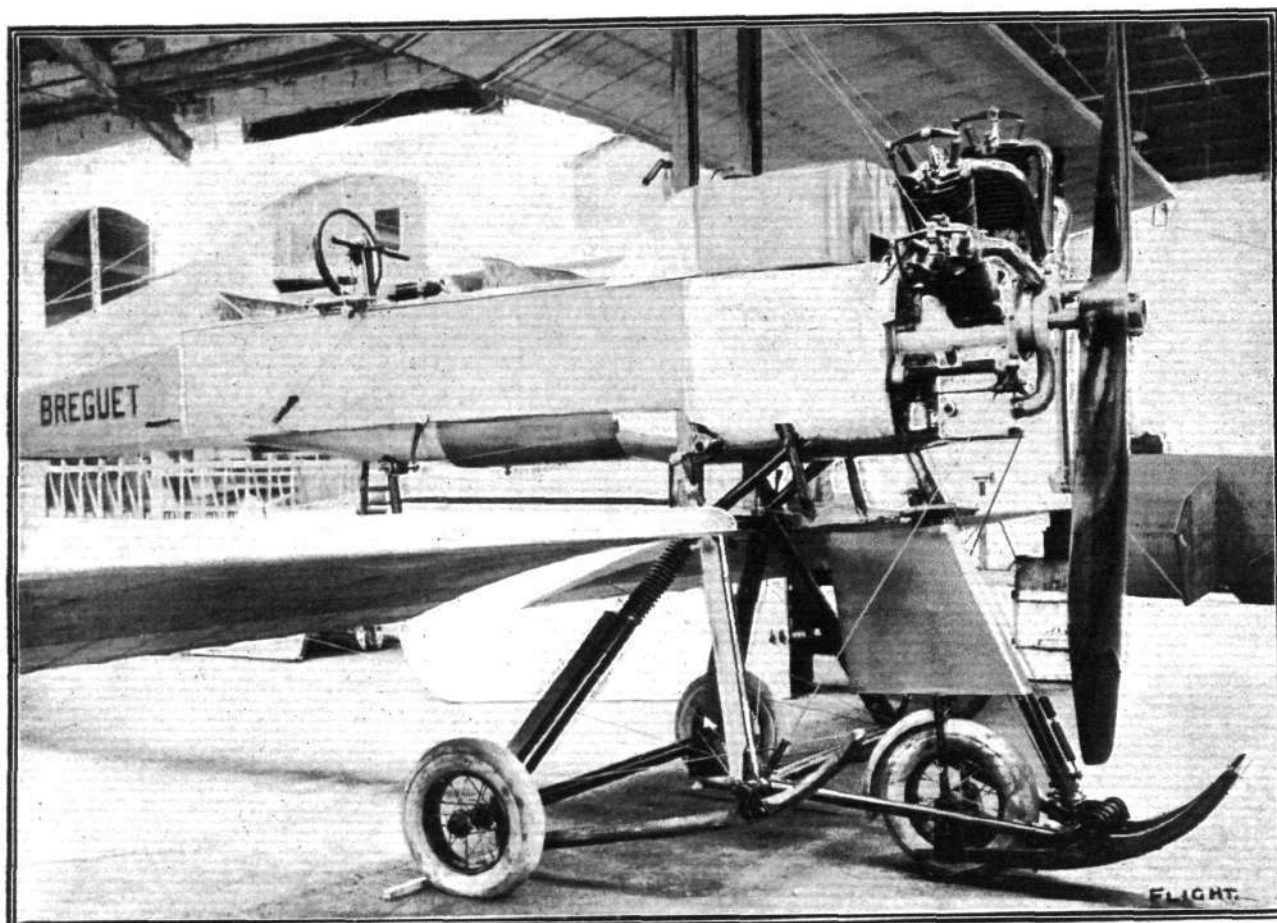
An important outcome of the use of but one row of struts between the main planes is that provision can be made for folding the wings against the body of the machine as a means of reducing the bulk for transport. The manner in which this is done on the Breguet aeroplane is very clearly illustrated by the accompanying illustrations, one of which is a photograph of the machine



The Breguet biplane with its wings folded for transport.



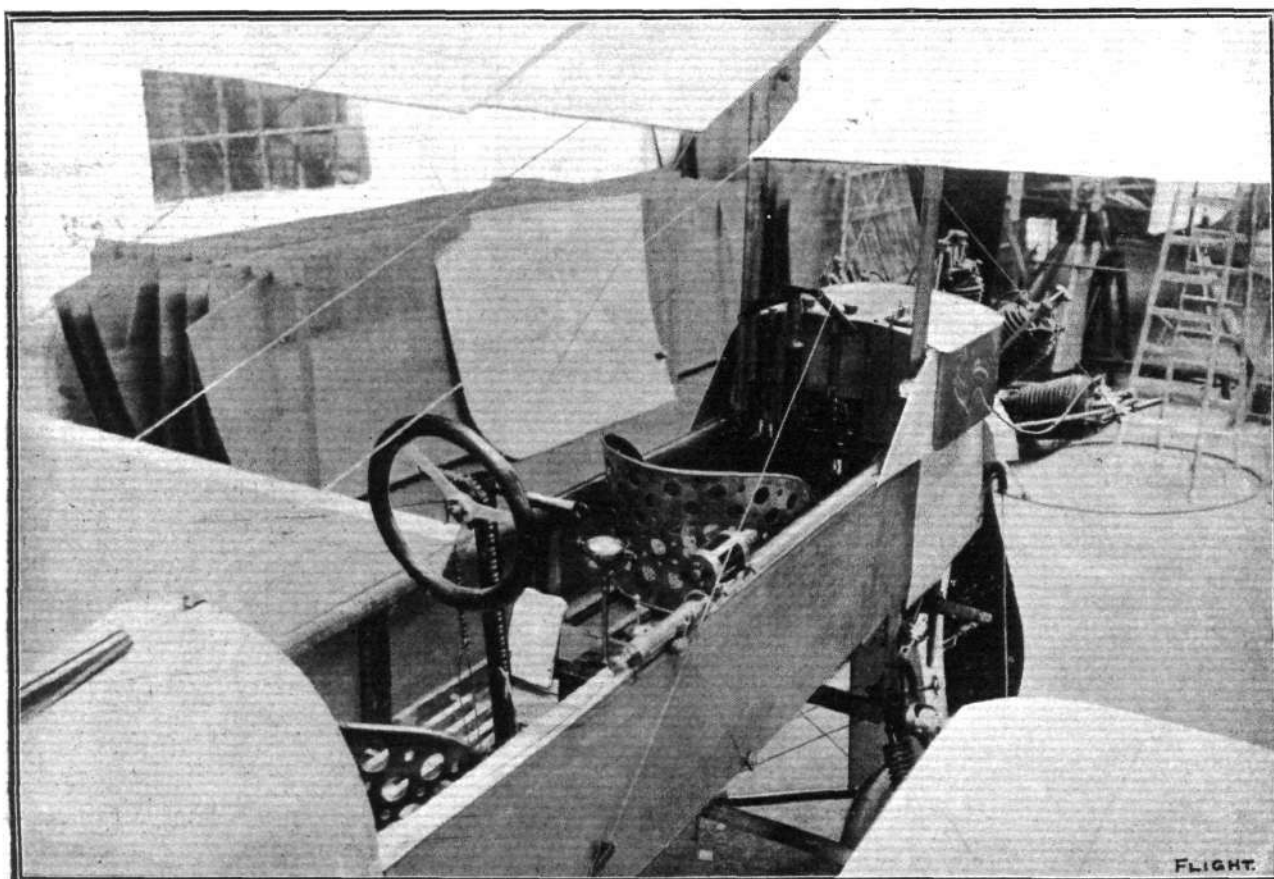
On the left is a view of the knuckle-joint attachment of the wings to the body; in the centre is the universal-joint supporting the tail, and on the right is shown the method of anchoring the tie-wires to the base of a strut on the main plane.



Undercarriage of the Breguet biplane.

comprises only four struts in all, and of these four two are immediately adjacent to the body of the machine; thus there

is but one strut that is in any way in a position to interfere with the folding of the wings, and this, as will be evident from



The pilot's seat and the passenger accommodation on the Breguet biplane.

the photograph, constitutes no sort of inconvenience in practice. The wings are attached to the body by a knuckle-joint that is itself anchored by an adjustment bolt as shown in one of the sketches. This adjustment affords a means of varying the normal angle of incidence, but it is a shop adjustment and users of the machine are not supposed to tamper with it. When disconnected the entire wing can be turned into a vertical position, that is to say, with an angle of incidence of 90° , and in this position the knuckle-joint enables the wing to be folded back against the body of the machine. Both wings are rotated in this manner but the initial movement takes place in opposite directions, that is to say, the lower plane has its trailing-edge raised, while the upper plane has its trailing-edge lowered. In this way the wings overlap and occupy a minimum of space.

Whilst dealing with the constructive details associated with methods of attachment, it is interesting to observe the manner in which the tail is mounted on the frame by a universal-joint. The details of this joint are also shown in one of the sketches. The tail itself is somewhat uncommon, too, inasmuch as it is of the cruciform type and moves *en bloc*. The vertical plane is the rudder and the horizontal plane the elevator, but neither can move without the other. The whole structure is carried on the universal-joint already mentioned and is braced to the body by wires that contain fairly stiff compression springs in order that they may accommodate themselves to the movements of the control.

The system of control on the Breguet aeroplane includes wing-warping for balancing and the use of the elevator and rudder already described. These operations are carried out by means of a universally pivoted lever fitted with a steering-wheel at its upper extremity. Rotation of the wheel moves the rudder and the to and fro movement of the lever which forms the steering-column operates the elevator. A sideways movement of the steering-column warps the wings. Either operation can thus be carried out separately or all can be carried out simultaneously. A minor point well worthy of notice is that the wing-warping wires are attached to the steering-column by springs so that the action of wing-warping is necessarily performed gradually.

In addition to the tail already described there is a fixed tail plane situated beneath the body and in advance of the elevator. The object of this fixed tail plane is, of course, to stabilise the machine,

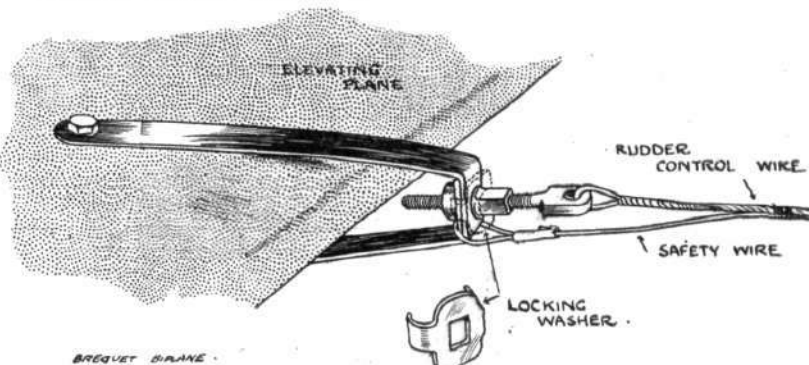


138 Entries for French Military Competition.

It is wonderful that at the present stage of the flying industry, and considering the severe conditions, that no less than 138 flying machines have been entered for the competition organised by the French Minister for War. These machines represent 41 separate

and it is designed to carry the light load represented by the after part of the body and the movable tail members. Practically speaking the machine is in balance about the spars of the main wings, for the engine and propeller are situated well forward to balance the pilot, who sits rather to the rear of the trailing-edges of the main planes. In front of the pilot is the passenger, and as our readers know, the Breguet aeroplane has been successful in flying with exceptionally heavy loads.

The undercarriage, like every other part of the machine, is of distinctly original design. It is a three-wheeled structure so



Sketch illustrating the attachment of the rudder control wire to the elevating-plane of the tail on the Breguet biplane.

arranged that the forward wheel of the three can be used for steering the machine over the ground. For this purpose it is inter-connected with the rudder. The struts by which the undercarriage is attached to the body of the machine are telescopic and are fitted with compression springs, two of them also have oil shock-dampers. Short skids are provided as a protection against very rough landing, such as might damage the wheels, but it will be noticed that the wheels themselves are unusually small in diameter and therefore unusually strong.

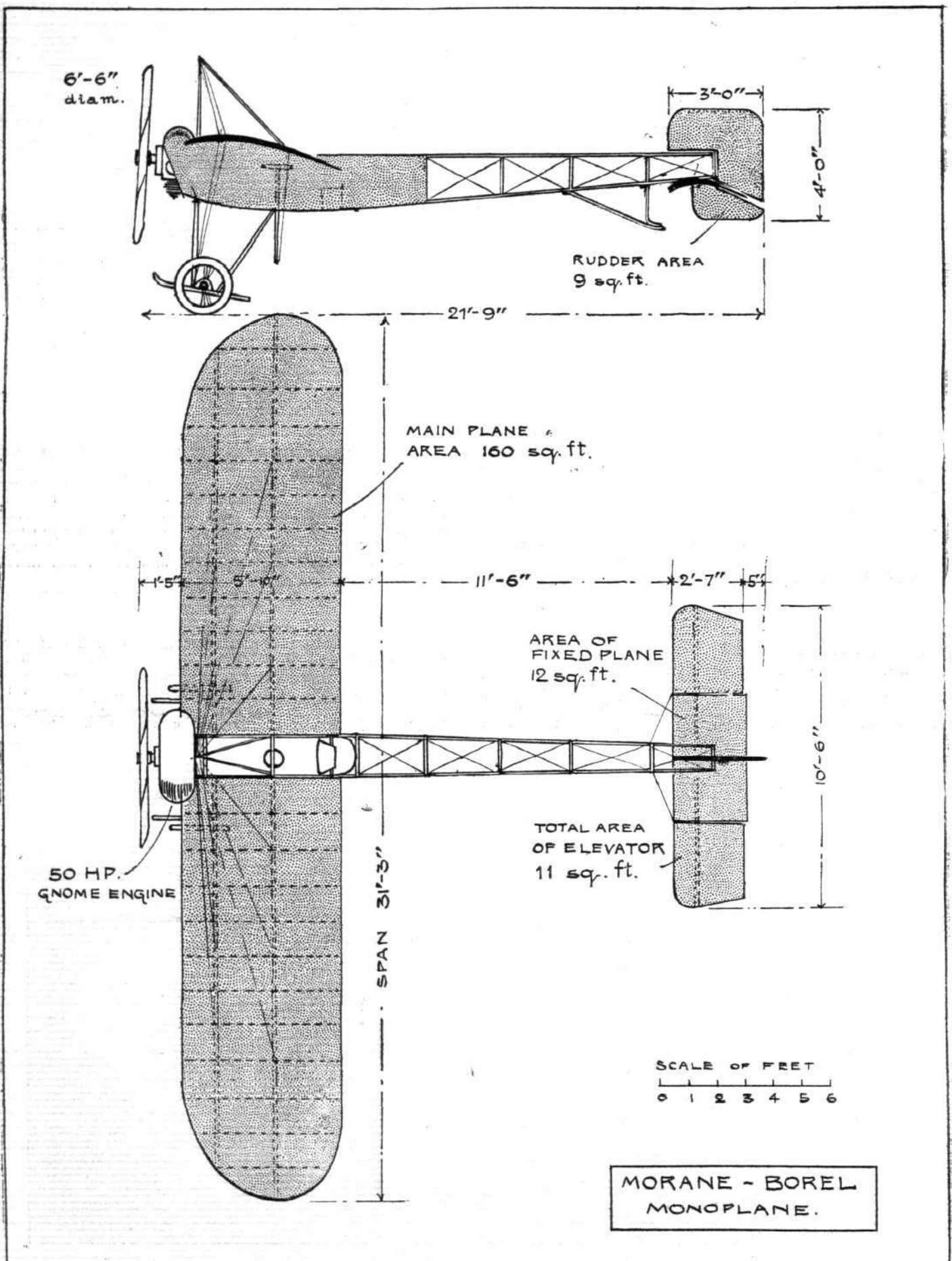


manufacturers while the number of different makes of motors included in the competition is 24. The machines have to be presented to the military authorities at the Rheims Military Aerodrome in time to take part in the eliminating competition which will be held from the first to the last days of October. The 300 kilometre test, carrying a useful load of 300 kilograms, commences on November 1st.



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DAILY MAIL CIRCUIT OF BRITAIN.—Prince Henry of Prussia, who arrived in his Prince Henry Tour car, watches the start of the machines from Brooklands.



THE MORANE MONOPLANE,—Plan and Elevation to Scale.

THE MORANE MONOPLANE.

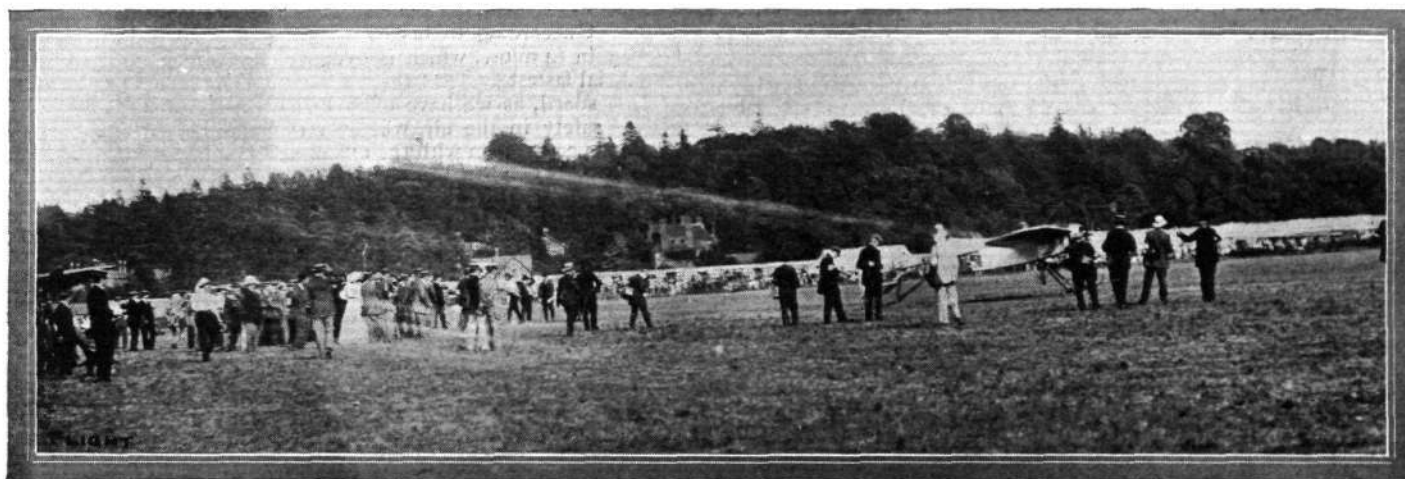
ONE of the most expert and experienced pilots that ever took his seat on the Blériot monoplane was M. Morane, whose flights at Bournemouth last year will remain long in the memory of those who witnessed them. It is, therefore, only natural that the machine to which he has given his name should itself closely resemble the pioneer model that has now been so often copied. To the casual observer, the Morane and the Blériot monoplanes will probably be indistinguishable at a glance, for the differences are of a kind that do not force themselves upon the eye.

One, for instance, that is more easily seen in a drawing than in the actual machine is the plan form of the wings, in which it will be observed that the rear spar is longer than the front spar, whereas in the Blériot type the reverse is the case. Also, it will be noticed that the chassis differs materially from the Blériot design, and embodies the wheel and skid combination originated by Farman. On the Morane monoplane, the skids are very short, we are tempted to say unduly short; but then it must be borne in mind that this machine has been built as a racer, and every effort has been made to reduce the weight. As a result, it is stated to weigh only 440 lbs. without the pilot. Under such circumstances, the presence of the skids must be regarded merely as a precaution against the complete disablement of the machine in the event of the wheels collapsing. Their use is not exactly intended to be a protection to the inexperienced pilot who brings the aeroplane to earth on its nose every now and again.

The chassis of the Morane monoplane is light but strong, and it

is sufficiently evident from a glance at the accompanying sketch that there has been no wastage of material. The skids are rather close together, and their attachment to the body is carried out more or less on the principle of the A frame. The body of the machine itself is of the rectangular lattice girder type with ash spars and struts reinforced by wire diagonals. The fore part of the body is surfaced with fabric in order to give the machine something of a keel, but the rear part is left open in order to reduce the surface against which the wind can strike to slew the machine out of its course. The rudder and the elevator are adjacent to one another at the extreme rear of the body, where they form, with the fixed plane, the tail of the machine. The fixed plane has an area of 12 sq. ft., and its two pivoted extremities, which constitute the elevator, have a total area of 11 sq. ft. The rudder, which is mostly above but also partly below the fixed tail planes, has a total area of 9 sq. ft.

The control of the machine is operated by a hand wheel that is rigidly mounted on the top of a vertical column, which is itself universally supported to the body. A to and fro movement controls the elevator and a sideways movement warps the wings. The rudder is independently operated by a pivoted cross bar under the pilot's feet. The pilot himself sits in line with the trailing edge of the wings and his weight is balanced by that of the engine, which is mounted in front under a shaded guard that protects the pilot from the oil and exhaust. The engine normally employed is a 50-h.p. Gnome rotary, which drives direct a two-bladed wooden propeller of 6 ft. 6 in. diameter.



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DAILY MAIL CIRCUIT OF BRITAIN.—Vedrlines on his Morane-Borel just away for Hendon.

SCHOOL AERO CLUB NOTES.

By ROBERT P. GRIMMER, General Secretary, British Federation of School Aero Clubs.

THE following translation of an article in a recent number of *L'Aéro* is interesting, as expressing the views of that journal on the school aero club movement in England. I reproduce it verbatim and without comment:—"The English school aero clubs, formed into a great federation, have taken recently an extraordinary development. The explanation of it, we believe, is in the fact that the most famous constructors and aviators are by no means bound even merely to accept the honorary titles that the society has offered to them. On the other hand, they have taken their mission seriously, and considering that there is in it a national interest they have formed the scholars, who to-morrow will be their pupils and clients, into an effective and disinterested organisation. They give to the members advice that will avoid long researches, encouragement which will console for disappointment, and other assistance of every kind. At the head of the Federation, as President, is Mr. Grahame-White, the Vice-Presidents are Messrs. Howard Wright, Roe, and Clarke. The General Secretary is obviously Mr. R. P. Grimmer, he who founded the first school aero club, and who has long striven to group together all the similar organisations. But can it be believed? The English school authorities wage against Mr. Grimmer an aggressive war. It seems that the passion which the English scholars have now for aviation is actually turning them away from the national games of cricket and football! In order to break down the animosity that he has encountered, Mr. Grimmer has had to swear that the design and construction of models shall not take away one minute from the above games. To-morrow, beyond doubt it will be otherwise. The same people will then approve of what they condemn to-day. Perhaps they will even persuade them-

selves that they have been from the beginning the warm partisans of school aviation, and that having experienced the toil they have a right to the honour. The pioneers of to-day will only be able to retire. But it will be well for them so long as their work is accomplished and their aims achieved. What matters the rest if one has the heart in the right place."

It is to be deeply regretted that some of the British firms do not follow the example of their Continental *confrères* in offering prizes for aeroplane design. I believe that M. Paulhan, who even as a schoolboy was tremendously keen on model-making, was able to commence his brilliant career as a pilot by winning a Voisin biplane as a prize for aeroplane design. I do not say that the average schoolboy is capable of dealing with the mathematics involved in designing a successful flying machine, but I do assert that here and there there are youngsters who have quite sound and original ideas on the subject. I have seen scale drawings of suggested aeroplanes that embodied absolutely sound theories, and I have no doubt at all that the machines, if constructed, would be capable of performances at least equal to those of the generally accepted types. The aeroplane has by no means attained perfection, and there is an immense scope for improvements in general design. With a view to encourage youngsters who have ideas, the funds of the Federation now enable me to offer another cash prize of a guinea for the best original design of an aeroplane sent in during August by a member of the affiliated clubs. A prominent manufacturer has kindly promised to judge, and subject to the competitor's wishes I hope to have the pleasure of publishing the winning design in FLIGHT.

THE "DAILY MAIL" CIRCUIT OF BRITAIN.



"Beaumont," the winner, at Brooklands. He started first from Brooklands and was first back again.

BROOKLANDS.

Saturday.

SATURDAY'S demonstration of flying at Brooklands in the start for the *Daily Mail* second £10,000 prize afforded one of the most remarkable spectacles that has ever been witnessed, either in connection with aviation or the pastime of motoring, from which aviation has at any rate to a large extent been developed. Although aside from the subject, it would be ridiculous under any circumstances not to refer to the extraordinary concourse of vehicles of the road assembled round Brooklands track to witness the machines of the air take their departure for the north. Those who have followed both movements closely—and although the pace of progress has been sufficiently rapid of late to make the youngest feel almost old when he thinks of these things, yet the years are strangely few in number, and many of those at Brooklands must have witnessed the start of motoring in England just as they have witnessed the beginning of flight—must have found much cause for interesting reflections of the past. A few years ago crowds used to assemble to see a motor car, and the generation that introduced the automobile is now assembled in honour of the aeroplane. Brooklands itself was built for the car, yet it is the aeroplane that attracts most people to its grounds. How soon and to what extent will the aeroplane invade the territory of the car as a useful and everyday sort of vehicle, must have been a question in the minds of many of those who looked on at the start of the Circuit of Britain on Saturday.

It was a bigger crowd—a far bigger crowd than came to see Paulhan fly nearly two years ago, and on that day the aeroplane was a novelty in London and its environs. Since then anyone has had an opportunity of seeing a flying machine if he cared to take the trouble to go and look. Was it not, therefore, at least in some measure due to an interest in the possibilities of the aeroplane as a future vehicle rather than as mere curiosity that so many people, and especially so many motorists, withstood the almost unendurable heat at Brooklands on Saturday afternoon.

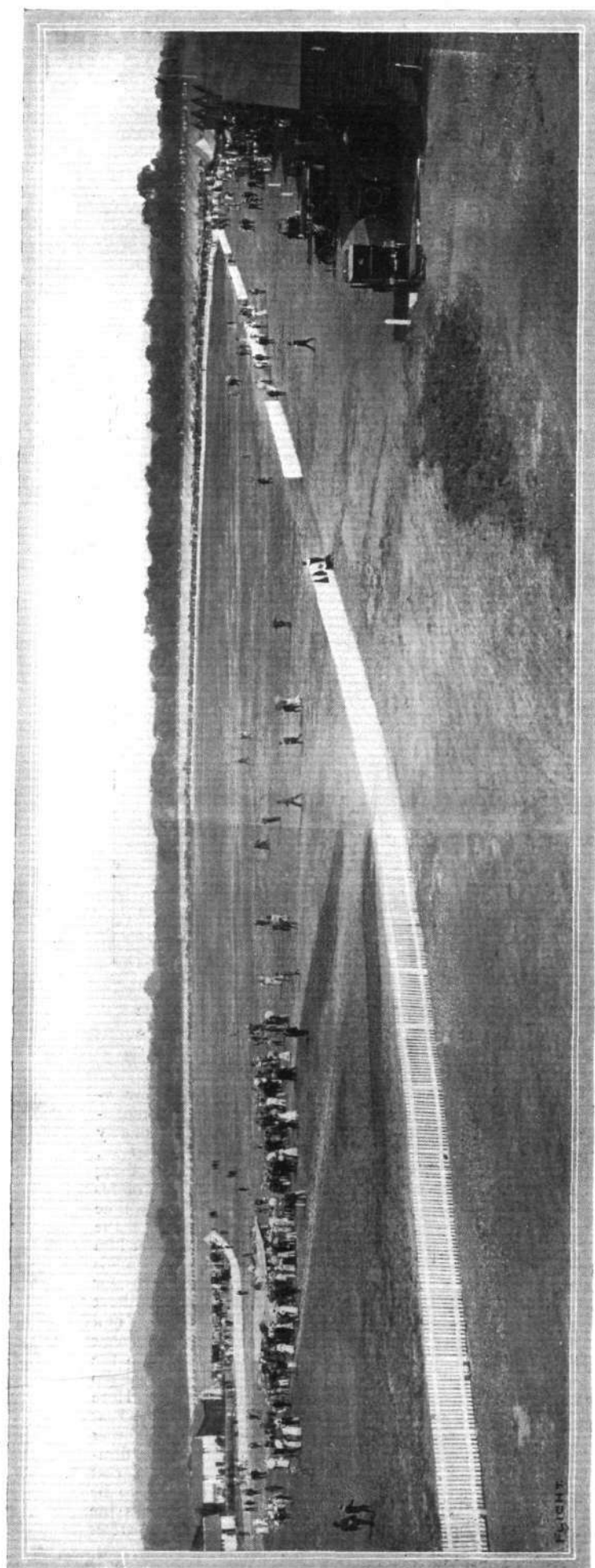
It would be interesting and very instructive to know what each thought on that occasion. As a spectacle it was of course unique, but apart from that there were the machines and the men, and the art of flying that those pilots displayed. Technically, the flying was far more interesting than the machines in the sense that the machines were for the most part characteristic of types that are

already familiar, at any rate to all students of aviation. Four or five of the monoplanes were built by Blériot, and combinations of that model with the Antoinette, which is the other pioneer machine in this class, characterised the outward appearance of most of the other machines possessing but one pair of wings. Short of going into a description of constructive detail, therefore, which would be inappropriate in this place and likewise unnecessary, inasmuch as we have made a point of describing the leading makes of aeroplanes in this manner as a regular feature of *FLIGHT*, it is practically impossible to draw attention to comparative characteristics of the machines themselves. One model that is a stranger within these shores which will naturally have attracted the attention of all those who were present on Saturday, is the Etrich monoplane piloted by Lieut. H. Bier. It is a huge machine distinguished by its bird-like wings with upturned extremities, and having in front of its enclosed body a large oval honeycomb radiator, which is thus situated directly in the draught of the tractor-screw. Another striking feature of this particular machine is the trussing of the wing spars by exposed lattice-work, an arrangement that tends somewhat to destroy the neat appearance hitherto so characteristic of monoplane design. On this particular score the little Nieuport is, of course, remarkable for its simplicity, and there is no wonder that the machine used by C. T. Weymann, the Gordon-Bennett winner, which is fitted with a 100-h.p. 14-cyl. Gnome, is capable of extraordinarily high speeds. Unfortunately Weymann had to return after making a start, in order to refix his map, but according to his own timing he flew the 20 miles to Hendon in 14 mins., which is over five minutes better than that of the official fastest.

High speed, as we have often had occasion to point out, is the key to safety in the air, whatever difficulties or dangers it may involve in connection with the ascent and landing. The higher the speed the less in virtual magnitude are the disturbing air currents and gusts of wind, so that if one can but fly fast enough all days would be relatively calm. It is, too, in high speed that the vehicle of the air must seek its chief utilitarian field, for in a civilised country the places that are inaccessible by road and rail are negligible, and it is in competition with other means of locomotion that the aeroplane must hold its own with the rest of the field. The uses of the aeroplane in the Army and the Navy are of a special order of importance, and great as they may be, those interested in the development of this new science do not confine their hope of the flying machine merely to its advantages as a machine of war.



Vedrines, the second man back, on his Morane-Borel.



THE DAILY MAIL CIRCUIT OF BRITAIN.—General panoramic view of the scene at the Brooklands aerodrome for the start on Saturday last, taken from the new bridge over the track to the flying ground. Note the extraordinary concourse of motor cars parked round the entire track and the thousands of the public who have secured positions on the top of the banking. The machine to the left surrounded by the crowd is Lieut. Bier's Etrich monoplane.

On the contrary, it is almost impossible to prevent the mind rushing ahead of reason in these matters. Alone of all elements, the air is universal; alone it affords an uninterrupted highway to any point on our globe. Thinking thus, is it natural to otherwise than have faith? At the moment, there are difficulties and dangers which have perhaps never been present in greater force than on Saturday, that apparently perfect flying day, when the air was full of treachery. Seldom have pilots had a more difficult task than to succeed in leaving Brooklands without delay on the first stage of the great race. The wind was blowing in the direction that they wanted to go, and all had to ascend head to wind and turn about in the air. In the hollow of the track itself the intense heat of the sun played havoc with the atmosphere, and many a pilot found the conditions more than trying ere he succeeded in making enough altitude to feel safe. Nothing but a good machine with a perfectly running engine and a skilful pilot sufficed that day, notwithstanding that the weather was apparently so fair. The mere fact that there were no fatal accidents is in itself a wonderful tribute to the progress of this great art. Thirty machines were entered to take part, and of these ten were for one reason or another unable to put in an appearance at the start. Of the twenty which did start seventeen safely reached Hendon, and this completed the first stage of the race. Less than two years ago the first flying meeting that England ever saw took place at Blackpool. Thereafter Paulhan, who was the principal exponent on that occasion, gave a demonstration at Brooklands with his Farman machine, although those who were at the time supposed to know wagged their heads and predicted certain death for such a foolhardy attempt. That was the beginning of Brooklands as an aerodrome. Within two years the march of progress has been sufficient to bring about a race round England, a race that is over 1,000 miles long, and a race that, were it possible to take place, would be considered a great and difficult event for motor cars. And yet there are people who see only on the surface of things, and who fail to appreciate the significance of the fact that the machines taking part in this very contest are sensibly the same as those that took part in that first Blackpool meeting. Of course there are many differences in detail, but to a great extent the detail is of a kind that is in the realms of improvement rather than first principle. Indeed, it is in many ways one of the most interesting and important technical aspects of this *Daily Mail* race that there is so little to say about the machines taking part to those who, like readers of *FLIGHT*, have been following the various moves in the game since it first became a matter of intense public interest. In saying this, we are not referring only to the start of the *Daily Mail* race, but to the various events of great importance that have been taking place of late. One and all have shown that the aeroplane is a flying machine, a machine worthy—as we said years ago in the *Auto*, before *FLIGHT* came into existence at all—of being developed and used to its utmost limit. It is a splendid lesson for those who have watched each step to realise how this progress has been made, steadily, we might almost say slowly, with the same fundamental type of flying machine. Over a hundred years ago, Sir George Cayley outlined in his articles and proceeded to construct a machine that was characteristic of the modern aeroplane. Eight years ago the world was pricking up its ears at the rumours of flights being made by the Wright Brothers in some remote spot on the coast line of America. Then all eyes were turned to France, where Santos Dumont hopped 25 metres with a tail-first biplane in 1906. What intense excitement there was when Henry Farman won the first Grand Prix of the air, in 1908, by covering a circular kilometre. It was the great test in those days to fly a circular course. Pilots were running along the ground with their machines, and hopping up into the air for distances more or less short. It was considered, and rightly so, that the real crux lay in turning about in the air. Henry Farman was the first to perform such a feat under official observation. Think of it; that was only a little over three years ago! and here we have seventeen or more machines starting off for a tour of Britain, each one having, as it happened, to perform Farman's feat, for which he got 50,000 francs, before it could so much as make a start in the right direction. Many of those who left Brooklands on Saturday made far more than a circuit of one kilometre ere they found themselves really *en route* for Hendon. During the whole of Saturday's performance, and Brooklands was indeed an arena on that day, the events varied only in degree, and during the whole evolution of modern flight the same remark applies with equal force. It is still the aeroplane that is the flying machine, it is still to all intents and purposes the same control, but there is a wonderful difference in the accomplishment. Seeing how much difference there is already, who can possibly presume to say what the future shall show?

As to the actual race and its surroundings, to those who have not been present at Brooklands where the start of Section 1 was made, or Hendon, the send-off for Section 2, or one of the

later stopping-points, it is beyond words to convey anything of a picture of the intense interest, enthusiasm and awed wonder, followed by boisterous approval of unfamiliar incidents as they followed rapidly upon each other. Of the 30,000 or 40,000 who had gathered within the gates of both Brooklands and Hendon, probably not 3 per cent. had ever seen an aeroplane in flight, and not more than another 5 per cent. had ever seen a machine. Original although natural thoughts were expressed upon the strange happenings. One charming little lady said it was altogether wonderful. "Those two little wheels," she continued, "running along the grass until they gradually rise into the air, just like a bird's feet hopping along until it makes up its mind to fly, and then away they go, and the whirring of the engine just a proud triumphant note illustrative of the old proverb of 'Something attempted, &c.,' is really grand." There is some comfort to think that to all the "hum" of the engine is not such an impossibly discordant sound after all. Every movement of the flying men was keenly watched, and all endured the tropical heat unflinchingly to assist at the consummation of the greatest aviation race the world has so far seen. Disappointments there were naturally, as one or two of the aviators for various causes dropped out, but whatever the change might be, at this stage of the game philosophical resignation reigned amongst the public, who accepted the retirements and variations in the programme as inevitable in so wonderful and to them mysterious a science.

Long before 3 o'clock Brooklands began to fill up—in fact a bigish crowd of men and cars already made a good showing by 1 o'clock. After that the arrivals were fast and furious, so that with the approach of 2.30 every point of vantage was beginning to get pretty crowded. Many who had tarried over long found themselves blocked in their cars far away from the gates and it became

Of the 30 pilots entered, therefore, No. 6 was ruled out; No. 3, M. Brindejonc des Moulinais, was not over, by reason of his accident in France last week; Mr. Graham Gilmour (15) was disqualified from taking part; Mr. Prier had damaged his machine in the morning; and four others retired, viz., Mr. R. C. Fenwick (4), Mr. James Radley (10), M. Tabuteau (21), and Mr. Robert Loraine (26), leaving 22 to go to the starting line.

At about 2.45, owing to representations which had been made to them regarding the wind, the start was postponed by the Stewards for one hour, until 4 p.m. At that hour, to the second, "Andre Beaumont" was clocked away for Hendon, and in the next few moments a murmur of "There's one starting!" rippled over the entire concourse of watchers. And immediately "Beaumont" was rising against the wind, well over the enclosures, to take a right-hand turn over the hangars and make a bee line for Hendon. Next, at 4.4, H. J. D. Astley was up in his Birdling, and in faultless style followed in the wake of "Beaumont." With such a commencement folk began to settle down to enjoy the monotony of the sport. But Lieut. Porte, who came next at 4.8, struck one of the treacherous eddies, caused by the intense heat, which were in such evidence close to the ground. Before he had travelled 200 yards his monoplane tilted over ominously to the left, and the pilot being unable to recover her, came down with a crash. A good deal of dust and a smashed wing resulted, whilst Lieut. Porte, to the relief of all, was seen to be climbing out of the seat long before anybody was near enough to assist him. Excitement after this episode rose high in anticipation of further thrills. But, fortunately, this was almost the start and finish of mishaps, although considerable variety was given to the afternoon by minor difficulties of some of the pilots in getting up out of the

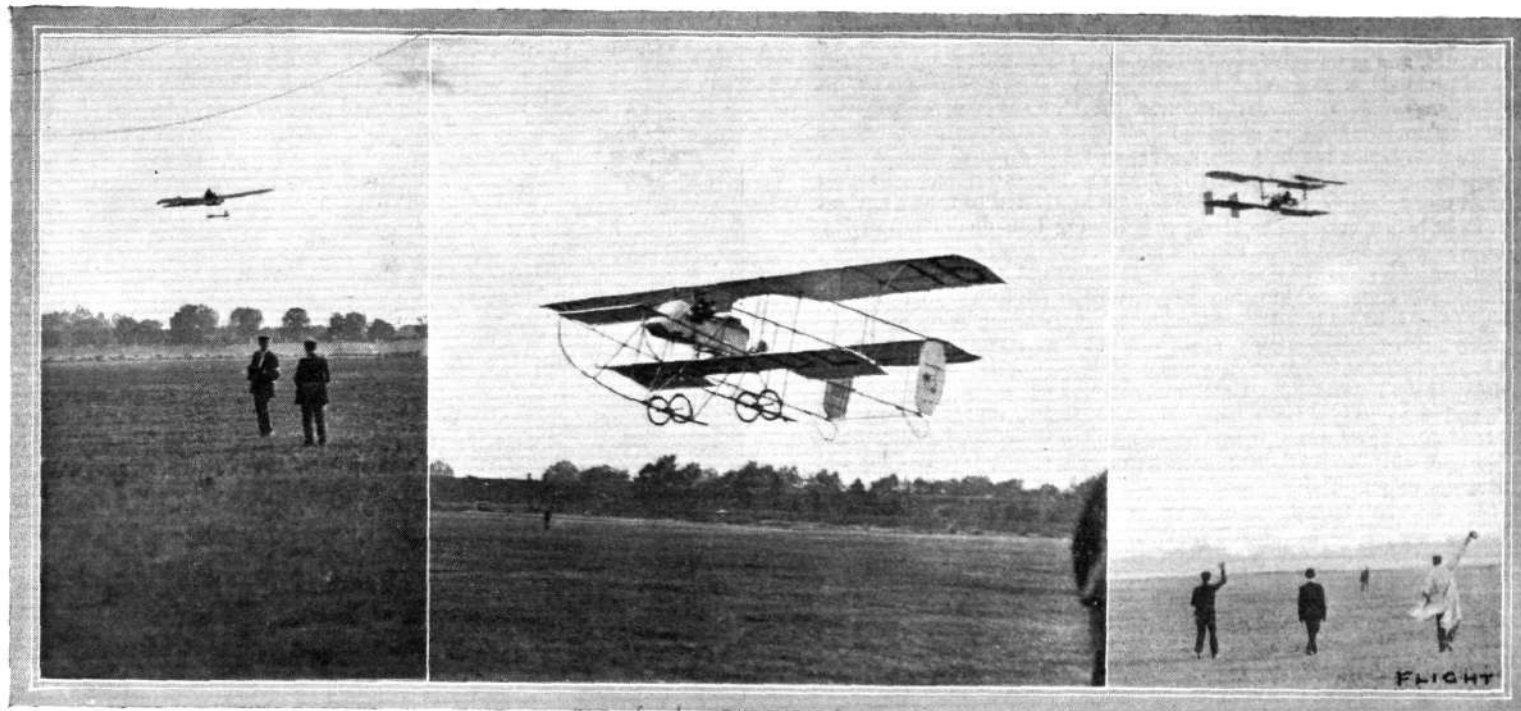


"Flight" Copyright.

DAILY MAIL CIRCUIT OF BRITAIN.—The imaginary starting line from which the whole of the machines were sent off from Brooklands on Saturday. Ready for being started are Nos. 1 and 2, and Compton Paterson's Grahame-White "Baby" biplane.

a choice of either temporarily abandoning their vehicles and tramping or seeing nought of the proceedings. Incidents of a quaint character, not to say with a spice of humour in them to all except those immediately concerned, were spoken of. That Lord and Lady Northcliffe, who arrived in their Rolls-Royce car, should have found the greatest difficulty in obtaining admission to the grounds is a situation quite Gilbertian in its way; no less curious was the trouble which Prince Henry of Prussia experienced in getting through the cordon of custodians of the 'drome. Fortunately, in such conditions as those prevailing on Saturday, these little upsets are speedily forgotten and forgiven. Undoubtedly all the organisation was of the very highest order, and it may be possible that the very perfection of that organisation was at the bottom of such little *contretemps*. At least Lady Northcliffe showed little memory for it, when a visitor, suddenly fainting near her car, took her out of herself while she assisted in seeing that he was properly handled. In the meantime, the bringing out of the machines by different aviators, the tuning-up in the hangars, and the inspection of the aeroplanes afforded a continuous source of interest to the mass of spectators who had assembled for this great flight carnival. Mr. R. C. Kemp on an Avro biplane just before 1 o'clock created a more startling diversion. Having risen for a trial trip, he seemed to strike a "pocket," with the result that one wing collapsed, and he came down to earth with an ugly thud. To himself no harm came, but the machine was a total wreck.

Brooklands cauldron. The only other real break-up was Conway-Jenkins on the Blackburn; but then his experience with this monoplane was so slight that he must be written down as vastly plucky to have attempted a start. In the meantime Compton Paterson, on the Grahame-White "Baby" biplane, went off at 4.12, making a very pretty turn, and receiving extra applause by reason of his being the first biplane seen in flight. O. C. Morison's time for starting was 4.16, but as luck would have it, he had the previous day injured his eyes so badly that it was hopeless for him to attempt any flying on Saturday. Next came Vedrines on his Morane-Borel, and splendidly did he get away. No long turns for him, but at the earliest moment with safety he was on the direct line for Hendon. Blanchet, on the Breguet, who followed, was in a bit of trouble at the outset with his motor, and looked for a moment or two as if he might make an unpremeditated descent into the official enclosure, but he stuck to his work and managed to keep her head straight and steered for the centre of the grounds. Here her course became very erratic and it was a very acute interest that followed his movements as he steered first one way and then another along the banking and over the trees, until at last there came firmness into the machine's flight, and with a graceful turn and at a great speed Blanchet was seen to be sweeping right back again, to be greeted with vociferous cheering as he passed rapidly across the aerodrome on his way to Hendon with his engine running in perfect unison.



Valentine making his rapid rise and turn on the Deperdussin.

Gordon England an abortive

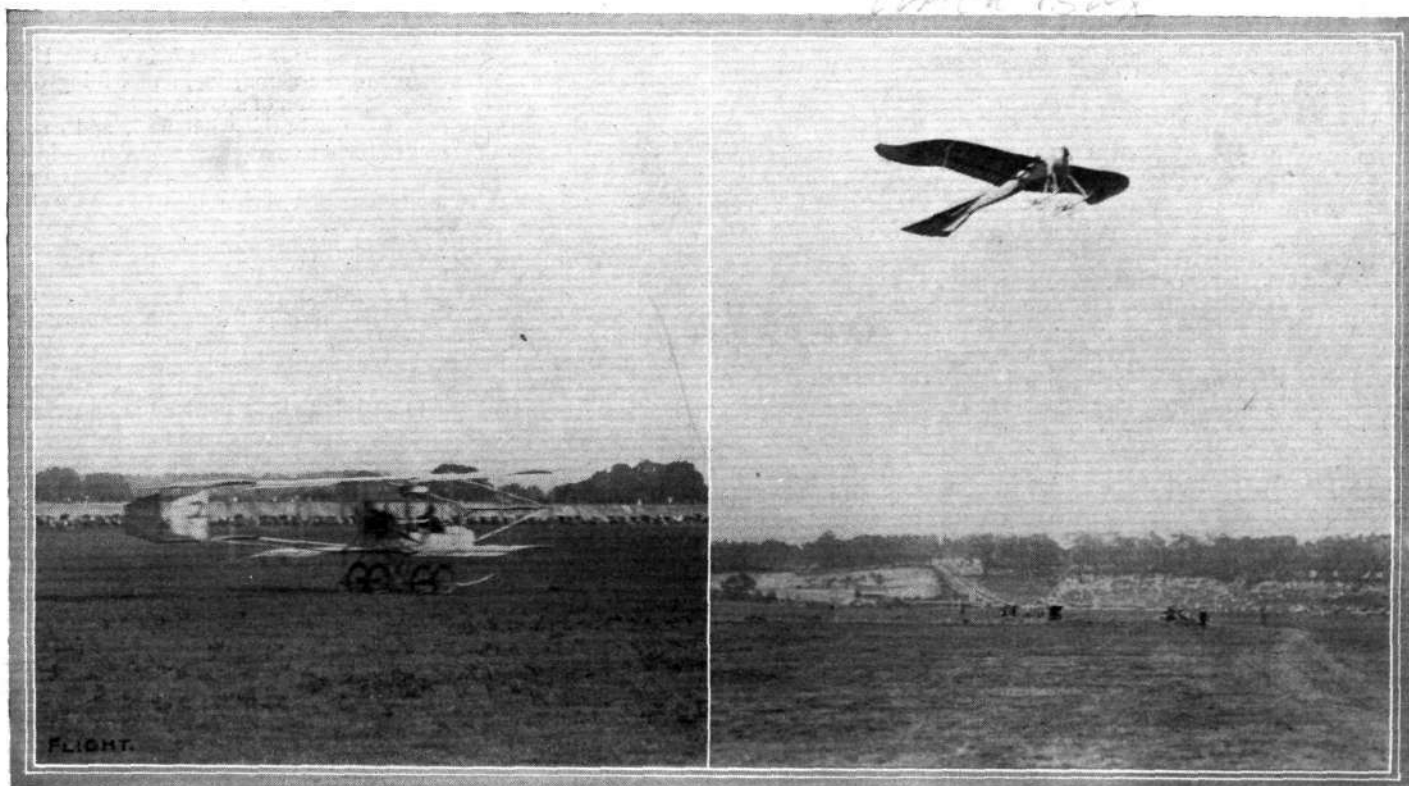
Pixton making a good start on the Bristol.

Cody well away for the first section to Hendon.

Lieut. Cammell took his turn at 4.28, and after getting well away was compelled to come down on Hounslow Heath through engine trouble. Audemars, on a Blériot, followed Cammell, and made a clean flight to Hendon, although soon after passing beyond the track he appeared to be steering too northerly a course. Following him was James Valentine, on a Deperdussin, a silent interest being evident in his start owing to its being a sister machine to Lieut. Porte's. But no "get away" for the day was finer than Valentine's. He rose sharply, and with a marvellous right turn he was chasing Audemars, and appeared to be overhauling

him with great rapidity. Gordon-England was quite unable to get up on his biplane when next sent off, owing to engine trouble, although his continued efforts were deserving of a better fate. C. P. Pizey, who was next away, made a longish trip due south before turning back and flying over the hangars for Hendon. Howard Pixton's get away on his Bristol machine was undoubtedly the best start of the biplanes so far, and his quick turn and direct steering for Hendon brought out a round of applause. S. F. Cody, flying very low, came in for very hearty greeting as he piloted his biplane round the back of the hangars for his turning

Etrich Bay



Compton Paterson taking his run off on the "Baby" Graham-White.

Lieut. Bier, with his passenger, starts away on the Etrich.

DAILY MAIL CIRCUIT OF BRITAIN.

movement. Olivier de Montalent was more fortunate with his Breguet, and got a good run to Hendon. Gustav Hamel, as usual, was greeted as a general favourite as he skimmed away on his Blériot after a really remarkable take-off. C. T. Weymann had a bit of bad luck. Making a splendid start at a terrific pace on his Nieuport, he looked like creating record; but after a turn he was seen to be descending again. His map had got restive, and rather than risk calamity from so small a cause he elected to return and set it right before crossing to Hendon. Having remedied its troubles, he was away again a few minutes after 6.

Lieut. Bier, carrying a passenger as usual, got away on his Etrich in grand style, but finding his propeller not working to his satisfaction he returned to earth, and after about an hour and half's delay he once more took the air and sped away very gracefully for his destination. Lieut. Reynolds and B. C. Hucks had both delayed their starts for a time, and did not get away until between 6 and 6.30, when both made effective starts, and duly reached Hendon in fine form. It was subsequent to this that Jenkins made his bad start, and H. Wynmalen, through motor trouble, did not attempt to get off the ground.

AT HENDON.

The Arrival, Saturday Afternoon.

Never had so many people been seen at Hendon before! From all directions, by tram, by tube, by train, on car, on foot, they thronged towards the aerodrome. As the time for the arrival of the competitors approached the crowd in Collindale Avenue became denser and denser, until it was one solid black line of cars and people from end to end.

In the enclosures, among the gaily dressed crowd, the scene was one of great fascination. Away on old Hendon Hill the fields were black with spectators. One farmer, with a shrewd eye for business, had erected a long canvas screen along the upper side of his field, and charging threepence for admission to the other side soon reaped a huge harvest. Quite a strong breeze tempered the scorching brilliance of the sun, but even then it was so hot that most fled to the little shade afforded by motor cars and lolled there, developing healthy thirsts meanwhile.

At 3 o'clock the megaphone man announced that the officials had decided to postpone the start for one hour owing to the dangerous conditions at Brooklands.



Howard Pixton makes a fine *vol plané* on the Bristol upon his arrival at Hendon.



DAILY MAIL CIRCUIT OF BRITAIN.—Vedrines and Valentine, just arrived at Hendon, on their way to the hangars.

The hour passed slowly and excitement grew intense. People rose from their patches of shade, and mounting chairs, peered steadily in the direction from which the aviators were expected to appear. At last a tiny point was discerned high up in the sky, and those with glasses told us that it was a monoplane.

"Beaumont!" said everyone, and "Beaumont" it was. He quickly sped over the few miles to the aerodrome, and cutting off his engine glided to the ground amid roars of applause.

Astley was next to arrive. He fought the wind well, and continued his flight until he reached the far side of the aerodrome, when he turned head to wind and planed down steeply. Some few minutes passed, and then a biplane came in sight rather to the west of the true course from Brooklands. It was Paterson on the Grahame-White "Baby" biplane. Not waiting for the official car to meet him he flew towards the enclosures, and landing, rolled down the wide lane between the Grahame-White hangars and the half-guinea enclosure until he reached the door of his hangar. It was the neatest descent of the day.

Vedrines arrived as usual in a most business-like manner, and it is interesting to see how he treats time-saving as a fine art. As he neared the aerodrome he gradually descended until at the moment of passing into the ground he was scarcely more than fifty feet above the heads of the lookers-on. A short steep glide to earth and he lands just on the border of the aerodrome. He does not remain in the air one second longer than necessary.

A Breguet then appeared with Blanchet at the helm, flying along very steadily at a great speed. He made one circuit and landed.

Two monoplanes in sight! People craned their necks in anticipation of a neck and neck race to the ground. Audemars on his Gnome-Blériot was leading, with Valentine on the Deperdussin behind, and at a much greater elevation. They dropped down amid much cheering. Pixton on the Bristol comes next. Fighting his way through the gusts that buffet him, he forces his machine to earth with the engine running at full power. The genial Cody arrived at a very low altitude—he was scarcely more than 50 ft. above the houses in Collindale Avenue. But his landing was good, and his reception also; Englishmen admire perseverance of his stamp.

The next in sight was a Blériot. It was Hamel, and with a neat glide he landed amid cheer after cheer. Then followed another Breguet, with De Montalent at the helm. It is really surprising to see how well these weighty constructions of steel fly. Another Bristol appears, Pizey piloting. He landed much in the same way as his fellow pilot Pixton.

For an hour nothing occurred, and the crowd began to disperse. Then came Weymann at a most terrifying speed on his 100-h.p. Nieuport. He had averaged over 80 miles an hour between the two aerodromes. A deep roar heralded the approach of the massive Etrich monoplane, and with a gull-like swoop she landed. Hucks flew his Blackburn very prettily and was heartily cheered, especially by his old colleagues, the Grahame-White staff.

With the arrival of Lieut. Reynolds on the Howard Wright biplane and Lieut. Cammell on the 70-h.p. Blériot two-seater the multitude gradually disappeared, having witnessed the finest object-lesson on the advance of practical aircraft that it would have been possible to set before them.

The Departure, Monday.

The scene in the vicinity of the aerodrome throughout Sunday night and the small hours of Monday morning was one that the natives of Hendon are not likely to forget for a decade. Quite early on the evening before the start people began flocking to the aerodrome, with the intention of snatching a few hours' sleep in the surrounding fields, and of being fully prepared for the morning.

Powerful repair cars, with their loads of spare parts and mechanics, were dashing hither and thither in clouds of dust. Coffee stalls and the like had sprung up like mushrooms all along Collindale

to discomfort, while the green fields on old Hendon Hill, which form a most excellent natural grand stand, were changed to a dull neutral monochrome by the populace. The magnitude of the crowd that had assembled to witness the start was really astounding, and it was more than encouraging to those who have the success of aviation at heart, to think that so much interest has been aroused by the great race; for these half-a-million Londoners had to sadly curtail their night's rest, and in many cases to go without it altogether, in order to be present at the aerodrome at daybreak.

As the time of departure drew nearer, the people became quieter, and contented to wait in a state of silent expectation, their eyes fixed eagerly on the aeroplanes drawn up on the starting line. At a minute or two before four o'clock Vedrines and "Beaumont" mounted their machines, and their engines were started. Vedrines, who had gained 15 secs. on his celebrated French rival, by virtue of his fine performance in the first stage, should have been away first. Probably misunderstanding the signals, the impatient "Beaumont" gave the signal "Lachez tout!" a few seconds before the official starting time, and wheeled superbly off in the air towards Harrogate. Vedrines was soon at his heels, however, and the two rapidly became mere specks in the distance. While they were yet barely visible to the unaided eye, Hamel dashed off in pursuit on his Blériot. His ascent was beautifully steady and inspired great



DAILY MAIL CIRCUIT OF BRITAIN.—The scene at Hendon at 4 a.m. when the machines were sent off.

Avenue, the road leading to the aerodrome, and the raucous cries of their proprietors effectively kept the residents from sleep—sleep that was so much needed by everyone, but which few considered themselves justified in taking. In the fields near the entrance gates the people had kindled large bonfires, and around these they sat and chatted till dawn. Those who were not so fortunate in finding inflammable material warded off the chill of the night air by shouting out popular melodies at the top of their voices.

The lights of the bonfires, the naphtha flares on the booths, and the headlights of the waiting cars rendered the sight almost uncanny in the steel grey of the approaching dawn.

Although the crowd had been flocking steadily towards the grounds all night, the real influx of spectators did not commence until 2.30 in the morning. Before many minutes there was one long queue of private cars and taxicabs extending along the whole length of Collindale Avenue, while the pavements were so swarmed with arrivals on foot that it would have been a sheer physical impossibility to have made any progress against that tide of humanity.

Hucks mentioned later to the writer that it had taken him exactly one hour to get his car along this last half-mile to the aerodrome. The popular priced enclosures, large as they are, were soon crammed

confidence amongst those who regarded him as England's hope. Another propeller was set in motion and another machine was struggling in its leash. It was Valentine, in his neat little Deperdussin, both man and machine being excellent units and likely to prove formidable rivals to the crack French aviators.

Audemars, the little Swiss aviator, who created so much wonder and amusement by his clever flying on the Demoiselle at the Bournemouth meeting last year, and who has since changed his mount to a Blériot, was due to start next, but he was delayed by a refractory engine. He got away later, however, and in fine style.

Pixton also had trouble with his Bristol-Renault. The motor was miss-firing so badly that he could not manage to coax the machine to leave *terra firma*, and it was not until he had cleaned his plugs and made several adjustments that he got his engine developing anything like its real power. With more thrust from the propeller, however, he was not long in leaving the aerodrome.

It was very disappointing to those who placed great faith in Paterson to hear that he did not intend to continue, and from the way Grahame-White handled the machine later one could safely say that it was for no mechanical reason that he had abandoned the race. Pizey, stable companion of Pixton's, and the pilot of one of

the only two Bristol machines now left in the circuit, was next to get away. At the north-west end of the aerodrome he found that he had not risen enough to clear the trees, so swerving sharply to the right he landed. With a fresh start he circled twice to attain a higher level, and then flew away above the main Midland line. At the same moment Astley, on the Birdling monoplane, got away, making an ascent with all the dash of his French opponents.

In the meantime Blanchet had been running his Breguet across the ground from the temporary hangars on the far side to the starting line. As he was waiting for the signal, with his engine throttled down, Wynmalen, who was standing near, noticed a monoplane approaching at a high elevation. It was found to be Autemars. He complained of his engine, and seemed to be getting all the ill-luck that was only traditional for a No. 13 competitor to have.

Reynolds, the timekeeper, dropped his flag, and Blanchet, quickly accelerating his motor, got away grandly, and headed straight for the next control. Cody was next up. He seated himself easily in his "Cathedral Minor" while the usual process of "winding up" proceeded. His start was accompanied by a burst of cheering from the crowd—everyone admires Cody—and he left the ground at a low elevation.

Lieut. Reynolds, on the E.N.V.-Howard Wright, was another victim to engine trouble. He circled the ground a half-dozen times, but with such a poor propeller-thrust could not rise higher than 200 ft., while he dropped noticeably on turns. He decided to post-

In the interval before the next departure Grahame-White treated the crowd to a most amazing series of "stunts" on his "Baby" biplane. It was more in the order of aerial figure-skating than flying. The way he drove the machine round corners and serpentine along the front of the enclosure was miraculous in the extreme. Although he earned cheer after cheer from the crowd most of those who knew what possibilities there were, were heartily relieved when he descended. Within a few minutes he was again in the air, this time on the military Farman with Lady Northcliffe, the wife of the generous donor of the £10,000 prize, as passenger. With his fair passenger he ascended to a height of 500 ft. and circled the aerodrome.

Lieut. Cammell was delayed in starting, but once under way he was soon lost to sight, flying grandly. Lieut. Reynolds, on the Howard Wright, left soon after 6 o'clock, he having meanwhile managed to get his engine in proper working order.

During the delay before the next departure Hubert started off with a passenger on the military Farman. While turning, the biplane was noticed to behave unsteadily, and although he pulled his ailerons well down and threw the rudders hard over, the machine did not respond, but crashed to the ground. Happily no great amount of harm came to the occupants.

At 8.15 De Montalent set off in his Breguet. It was not until after one o'clock in the afternoon that Weymann left the aerodrome,



DAILY MAIL CIRCUIT OF BRITAIN.—A natural grand stand at Hendon to view the start at 4 a.m. on Monday, typical of the huge crowds which gathered everywhere for the great race.

pone his start. Meanwhile interest was concentrated on the huge gull-like Etrich monoplane. The aristocratic looking "mechanic," in reality a friend of Lieut. Bier, and a brother officer in his regiment, was stowed away comfortably in his little cockpit near the engine, and the pilot was clambering into his seat at the control. The engine, a 120-h.p. Austrian-Daimler, was started, and amid much waving of arms the huge machine sped forward at a tremendous pace. At the end of the aerodrome, realising that he could not clear the trees, he swept round to the left and for a second it appeared as though he would dash into the crowd. He piloted very cleverly, however, and curving round to the right regained the railway line.

Hucks, on his Blackburn, was all impatience to start. At the official signal he ran lightly along the ground and leaped into the air, giving a favourable impression to those who had not yet seen this interesting machine from the North in the air. One circuit, in which he passed over the crowd, drew from them a round of cheers, and he steered away North.

Weymann had extremely hard luck. In wheeling his Nieuport from the hangar, tail up, the propeller, which unfortunately happened to be dead vertical, caught with disastrous results on the small metal gutter that fixes the shutters. To make matters worse all his spares had left in his repair car and were well on their way towards Harrogate.

he having had great difficulty in discovering and fitting a propeller suitable for his 100-h.p. Gnome-Nieuport. However, when once he got going he showed that his speed was a serious factor to be reckoned with, as he winged his way towards Harrogate at something like 90 miles an hour with a following wind.

And with his departure, so far as Hendon was concerned, the Circuit of Britain chapter was closed, and those who were not already resting were ready to take the earliest advantage of quiet repose after their efforts during the past 48 hours.

SOME HARROGATE IMPRESSIONS.

Sunday night at the Queen's Hotel at Harrogate was spent in discussing the various possibilities of speed performances on the next morning, and in view of the times credited to Vedrines, "Beaumont," Hamel, and more particularly Weymann, it was hardly believed that any of the men would dare take risks in over-driving. "All out" engine speeds for an hour were reckoned very well when purely record breaking, but the experts assembled in conclave concluded that the aviators would consider discretion the better part of valour and reserve high speed displays until the last stage of the circuit. And so the final verdict was not too early breakfast, with a watchful eye for the first arrival somewhere about 7.30 a.m.

Vedrine nearly caught us all unprepared by appearing over the trees, less than half a mile away, just as the local clocks had struck seven, his official arrival time being 7h. 3m. 4s., and when his speed-rate was worked out upon his actual flight time from Hendon of 3h. 3m. 4s., as nearly as possible 60 miles per hour; and arm-chair critics, who were very much in evidence at Harrogate, predicted all sorts of terrible happenings, and that the old fable of the hare and the tortoise would prove once again to be right: "Wait till the biplanes have reached Bristol, then the speed merchants will tell a vastly different tale!" Whilst the talk proceeded, and some of us pressmen settled ourselves as comfortably as was possible on the grass to write impressionist telegrams, a shriek of delight from some barefooted urchins behind made one or two of us glance casually skywards, without any expectation of seeing anything else than a flock of birds. Listlessness changed to wonder when we recognised No. 1 beneath the planes, and "Beaumont," making a half circle on the edge of the aerodrome, came as lightly to earth as a scrap of paper at 7 mins. 45 secs. past 7 a.m. His elapsed flight time (net) was 3h. 7m. 30s., and thus early in the Circuit it was realised how bitterly must the fight proceed. Only 4 mins. 41 secs. between these two pilots over the couple of stages, from Brooklands to Harrogate, totalling 202 miles, a difference so comparatively small as to make the chances of both fairly equal. Vedrine's mechanics were pretty smart in replenishing, he occupying the essential delay in a light meal of fruit, with a few thin slices of bread and butter. A careful testing of all the control wires, a preliminary run of the engine, and Vedrine was up on his way to Newcastle at 39 minutes past seven, the "rest" period occupying 35 mins. 15 secs. "Beaumont" took matters more comfortably, or rather, his movements were more akin to the phlegmatic Britisher's, for, although he apparently went about his machine examination and food replenishment in no hurried style, the official timekeeper's (Mr. A. V. Ebbelwhite) figures proved him to have been but slightly longer, his departure at 47 minutes past seven showing his "resting" time to have been 39 mins. 15 secs. Consequently, Vedrine was 7 mins. 20 secs. ahead out of the Harrogate control. "Beaumont" must have travelled much faster than his opponent to Newcastle, because the net arrival times, which were telegraphed back to Harrogate, indicated that Vedrine was only leading by one minute. However, the latter stayed but 25 minutes before tackling the last stage of the day to Edinburgh, and the arrival times left Vedrine with a comfortable lead of some 18 minutes.

The only exciting incident to relieve the weary monotony of tedious waits occurred when Valentine hove in sight, making as direct a compass line northwards as had the two leaders. "Beaumont" had just been timed away, to circle a big sweep southwards before picking up the true flight line, and simultaneously Valentine crossed at a right angle, at least 600 yards higher. Then he heeled over at a somewhat sharp angle, followed upon Vedrine's track, banked over again to nearly describe three parts of a circle in the other direction, and then planed downwards. Instead of striking the "alighting circle" at a right angle he retained his original direction, coming slick across the ground towards the little group of pressmen assembled outside the timekeeper's tent. For a few seconds we were facing the nearest call to a hospital the writer ever wants to experience. A fractional twist of the rudder lines saved the situation, although we momentarily shivered in dread of his charging the closely massed spectators in the north-west angle of the ground. His time from Hendon being 3h. 29m. 28s., left him 36 mins. 24 secs. behind Vedrine. He was quite comfortable, but complained of several times losing his true direction, owing to the early morning mists that materially impeded progress all the way from Hendon to Ferrybridge. With the knowledge that nothing would be gained by hastening to Edinburgh, he waited 68 mins. 49 secs. before re-starting.

Those 12-hour enforced losses between the various controls were one of the mystifying features of the contest to spectators and even to some of the officials, and it required all timekeeper Ebbelwhite's oratory and explanatory calculations on paper to show enquirers what each aviator could and could not do. By carefully working out the distances and times on Vedrine's average speed of 60 m.p.h., he estimated that the leader could arrive back at Brooklands by 6.15 on Wednesday morning. (By the time these words are printed we shall learn how closely Mr. Ebbelwhite approximated to the correct result.)

Wonderful indeed was the patient and admirable behaviour of the terrific crowd assembled round the four sides of the aerodrome. The close proximity of big manufacturing towns, Leeds, Bradford, Halifax, &c., added a continuous procession of motor cars, motor cycles, push bicycles, motor char-a-bancs, and every possible form of wheeled conveyance, to the hundreds of similar vehicles that had come into Harrogate on Sunday. Many hundreds of people were on the ground before 5 a.m., and by 6 o'clock it was estimated that at least 150,000 people were assembled, whilst every minute up to about 10 a.m. brought thousands more. Except for the actual

landing and getting away off the ground of competitors, those people outside the roped enclosures had just as good a view as the thousands who paid for admission. And the patience of that orderly crowd was extraordinary. After Valentine's arrival at 7.42 there was a wait of exactly two hours for Cody's cathedral at 9.42, and by a peculiar coincidence exactly two hours further elapsed before Hamel arrived at 11.42. Thereafter nothing happened until Hamel departed for Newcastle in the afternoon at 7 minutes past 5, yet the crowds who had to stand for hour after hour in the 64. and 1s. enclosures held their positions beneath the broiling sun, and were content to hope that other competitors might arrive before darkness prevented any further sight of the men.

Cody's principal trouble was due to using aluminium as the material for the oil sump below the engine crank-case, which split in several directions across the base. When Cody reached Harrogate he had only about two quarts of oil remaining, and another mile or two would have brought him down with a seized engine. Quite an interesting contrast was provided for some hours by Hamel's tiny racing Blériot and Cody's monster biplane resting side by side; one the very embodiment of grace and speed, whilst the other looked quite capable of crossing the Atlantic Ocean as it literally towered above the midget machine. Just as interesting contrast was provided by the mechanics working simultaneously. The Frenchmen seemed to work each with four pairs of eyes and six pairs of hands in trying wires, adjustments, and replenishing. They overlooked nothing, and, if Hamel had desired, they were ready to send him away in less than 50 minutes after his arrival. Cody's men appeared to sit down aimlessly on the grass as though they had weeks in front for preparation, talked, found a bag of tools, took time to discuss whether one or the other should tackle this or that portion, and then ended by working together and interfering with each other at the same job. It is all very well to talk about the Britisher's reliable methods, but if we are to hold our own in the sport and industry, our own workmen must be taught the value of minutes, and to use their eyes as well as their hands.

Hamel's exhaustion upon arrival at Harrogate was greatly exaggerated by the daily papers. His enforced descent at Melton Mowbray, to remedy what he supposed was a broken inlet-valve, must have been very exasperating, because he actually held a considerable lead here upon Vedrine and "Beaumont," who passed overhead some minutes after Hamel had landed. And this statement we had from Hamel himself, and it can be accepted as correct. After pretty nearly pulling the engine all to pieces, with the aid of a friendly chauffeur who came up on a private car, Hamel discovered that the trouble was due entirely to sooted spark-plugs; and when these were replaced, and sundry small adjustments made, Hamel again ascended, after losing over four hours at Melton. He knew to a minute how far ahead were his two principal opponents, and having to keep going when the sun was most powerful nearly at mid-day, it is not surprising that, what with the hard work, mental worry and intolerable heat, he jumped out hurriedly, and lay out flat beneath the machine to shelter from the sun. He made the most perfect and graceful descent of the day, so there could not have been much the matter with him.

THE PROGRESS ROUND THE CIRCUIT.

Monday.

By the time Harrogate had been left behind by the leaders, other competitors were forming a long drawn-out line, with restings at various points along the route. Vedrine was first away from Harrogate at 7.39, and eight minutes later "Beaumont" followed him. Both flew practically without any incident to Newcastle, from whence Vedrine continued at twelve minutes past nine, again to be followed within thirteen minutes by "Beaumont." At Edinburgh a huge crowd had made its way to the military ground at Colinton, their ardour refusing to be damped by a rain-squall which passed over the ground a few minutes before Vedrine came in sight. Just before 11 o'clock a shout which went up from a hill in the neighbourhood of the landing place, told that an aeroplane was in sight, and half a minute before the hour struck Vedrine had landed practically in the centre of the great white cross laid on the ground to indicate the control. He was followed nineteen minutes later by "Beaumont" and then there was a long wait for Valentine, who was the only other one to complete the section that day. He had been delayed at Newcastle. On approaching the Tyneside city he mistook the Gosforth Golf Links for the control and experienced some difficulty in getting away again after landing, as the men who were eager to assist him thought he wanted his machine pushed off instead of held back. On arriving at the Newcastle control hunger asserted itself with such persistence that Valentine determined to rest awhile and replenish the inner man, getting away again at a quarter past two. The delay unfortunately cost him a good deal, as the wind had freshened considerably, so that it took him

just over two hours to get to the Scottish capital. No others succeeded in completing the second section on Monday, and the fourth position in the contest was held by Hamel, who rested at Newcastle overnight. After leaving Hendon he had been delayed at Melton Mowbray with inlet-valve trouble. He came down in a very rough field not far from where Pizey had landed. He had no spare inlet-valves with him, but fortunately was able to borrow a couple from Pizey, who also assisted him in fitting them. He said that he had been much bothered by fog and on starting again for Harrogate the mists were also very troublesome. He, however, arrived there safely, although fatigued, and after a rest of four hours re-started for the north. Mists again made the finding of his way a difficult task, especially in clearing chimneys and such like bric-a-brac, which would loom up suddenly out of the haze. On arriving in the vicinity of Newcastle he lost his bearings, and in coming down to find his way broke a wire or two. Procuring a motor car he drove to the control, from there carrying back his mechanics with him, soon completed the repairs, and flew over to the official station.

The next position was occupied by Cody, who had had various troubles. A water tube had burst when near Rotherham, and he had to land for 20 mins. to make repairs. Then within 20 miles of Harrogate a petrol tank burst at a height of 1,500 ft., and shutting off his engine Mr. Cody had to plane down. Putting this right he once more ascended, but on reaching Harrogate missed his way,

at Streatley, but unfortunately he chose a cornfield to land in, the skids being caught in the stalks, caused the machine to trip up, with resultant damage to the chassis. Hucks was also in trouble with his engine, and landed at Barton, near Luton. Lieut. Bier was another who was early in difficulties, owing to a defect in the radiator. He came down at Codicote, six miles north of Hatfield, damaging the chassis very severely in the process. Lieut. Reynolds was delayed at Hendon until the evening of Monday, when he was able to get as far as Edlington, near Doncaster, where he had to land for petrol. The only other starter was Audemars, who, after getting to Bedford found the fog too thick and flew back to Hendon, a second trip ending with the same result, after which he decided to retire.

Tuesday.

Proceedings started early on Tuesday morning, it being about ten minutes past three when "Beaumont" was timed away from Edinburgh, and a quarter of an hour later he was followed by Vedrines. Both had a trying time in getting to Stirling, the rain and wind over the Pentland Hills making the journey very trying and unpleasant. Both pilots, however, reached Stirling safely, but in view of the persistent rain decided to wait there to see if things would improve. As a matter of fact it was not until twenty-five minutes past seven that "Beaumont" was once more on his way, Vedrines following him five minutes later. On landing at Paisley, "Beaumont" said that the wind and rain, the mountains and the mists had made his journey



The first arrival at Edinburgh. Vedrines planing down over the Timekeeper's hut.

and had perforce to land again in order to obtain his direction. He arrived at Harrogate at 9.42 p.m., and then decided to stop until his petrol tank was repaired.

Of the others who failed to complete the control from Hendon to Harrogate, Pixton came down at Spofforth about six miles short and besides badly smashing his machine, so that he was forced to retire, also injured himself slightly. Weymann, who was confused by the railway lines when leaving Doncaster, calculated by his time and speed that he must have passed Harrogate, but on coming down found he was north-east of Leeds. Unfortunately a large crowd quickly assembled and in trying to restart and avoid the people a wheel was broken and so the Gordon-Bennett winner was put out of the running. Lieut. Cammell came down in a wheatfield eight miles east of Wakefield owing to a burst cylinder. Difficulty was experienced in landing and the machine overturning was so much damaged that Lieut. Cammell decided to renounce. De Montalent lost time in leaving Hendon, and landed at Melton Mowbray for petrol. He was further delayed there for a long time, and on starting again only got as far as Wetherby, where he lost his way, and in coming down broke his propeller. Pizey landed at Melton Mowbray in order to change his propeller, but in trying to restart, damaged the chassis of his machine, thus delaying him for the rest of the day. Astley, finding difficulty in getting along owing to fog at Bedford, decided to descend, and landed at Kempston near that town for breakfast. On resuming, the bad buffeting which his machine experienced, brought on sickness, and he landed again therefore at Irthlingborough. Blanchet experienced engine trouble near Luton, and came down

most difficult one. Vedrines came in sight of the aerodrome very soon after "Beaumont," but apparently did not recognise the ground. To the consternation of his mechanics he flew past. With a view to trying to attract his attention they emptied a can of petrol and started a bonfire, but it was all to no purpose. Having overshot his mark he found great difficulty in getting back, and had to land no less than three times before ultimately reaching the Paisley Race-course. In this way he lost 50 minutes, the delay causing him the bitterest disappointment. As if to emphasise his bad luck, just as he was descending "Beaumont" was timed away. After waiting about three-quarters of an hour Vedrines set out on his trail. At Carlisle a great crowd had assembled by 6 a.m., who for over five hours patiently waited, being rewarded at a quarter past eleven by the arrival of "Beaumont." Forty minutes later Vedrines was in sight, and this was the signal for "Beaumont," who had been lying down, snatching a brief rest, to take his place in his machine, and get ready for re-starting. The motor, however, was in a fractious mood, and for eleven minutes refused to start. At length, however, "Beaumont" was away, and heading for "Cottonopolis." Taking the Midland Railway as his guide he got to the east of his proper course. Then, finding his engine was not doing her best, he decided to come down, and was somewhat surprised to find that his landing-place proved to be Settle, in Yorkshire. After making some slight adjustments he was quickly in the air again, reaching Manchester at a quarter to five. Little more than half an hour after "Beaumont" had left Carlisle Vedrines started, and he too also lost his way through getting off his course, although his

deviation was to the west. He descended at Eccleston Golf Course for petrol, and made Manchester about 5.20. The crowd at Manchester had been waiting from early morning, and when "Beaumont" did arrive enthusiasm knew no bounds. "Beaumont" stayed about an hour before restarting on the concluding stage of the section, but Vedrines, in his anxiety to cut down the lead of his rival, only rested for three-quarters of an hour. His desire, however, to once more secure the leading position was doomed to disappointment, for on getting to Bristol he again mistook the aerodrome, and thereby lost over an hour. In view of the fact that Bristol is a centre of the aviation industry, it is not surprising that the inhabitants are keen enthusiasts, and from the early hours of the morning a great procession was seen making its way to the ground which had been selected for the control station. They had waited patiently all day, their interest between whiles being sustained by a series of exhibition flights by Gordon-England on a Bristol biplane. At 5 o'clock came the news that "Beaumont" had reached and left Manchester, and this was the signal for cheering. It was not till half-past eight that a speck in the sky told of the rapid approach of "Beaumont" to Bristol. Almost as soon as he landed the people spread all over the aerodrome, and this proved to be the undoing of Vedrines. He sighted an open piece of ground at the back of the British and Colonial Aeroplane Co.'s Works, and concluded that must be the station. It was just on 9 o'clock when this happened, and over an hour elapsed before he was able to reach his official destination, the proper aerodrome then being lit up by acetylene lamps and flares to guide him in making a safe descent. Thus the third day finished up with "Beaumont" leading by 1h. 15m. 9s.

With regard to the other competitors, Valentine went over from Edinburgh to Stirling in good style, but in the next stage had to come down at Castle Cary, about 6½ miles south-west of Falkirk, owing to losing his way in a rain-storm. In landing he damaged his propeller and rudder, but was able to get these repaired, and reached Glasgow at a quarter past eight in the evening. Hamel also progressed, but only as far as Edinburgh, his ill-luck persistently pursuing him. He made an early start from Newcastle, but the force of the wind brought him down at Innerwick, on the Firth of Forth coast, and on getting away again he had to descend at East Linton, Haddingtonshire, through engine trouble. He, however, reached Edinburgh just before eight in the evening. Cody left Harrogate, and after flying for just over two hours landed at Langley Moor, near Durham, as he was not sure of his position. Unfortunately in landing he damaged the chassis of his machine, and so could not go on. Astley continued from his overnight stopping place near Kettering, and reached Harrogate, while Lieut. Reynolds also arrived there. The latter, while making a trial flight preparatory to starting again, so much damaged his machine as to compel him to remain for the night. Pizey, having repaired his machine, attempted to get on from Melton Mowbray in the evening, but the biplane fell and was damaged once again, while Blanchet, who had patched up his Breguet at Streatley, had only proceeded a few hundred yards on a fresh start, when the machine dashed into a tree and was completely wrecked.

THE FINISH OF THE RACE ON WEDNESDAY.

The concluding stages of the race lay across more or less easy country, while the distances between the controls were comparatively short. Both Vedrines and "Beaumont" had borrowed part of their 12 hours' compulsory resting time in the Brighton stage, and so determined to try and reach Brooklands in the one day. They were astir in the small hours of Wednesday morning looking over their machines, and at ten minutes to five "Beaumont" was given the signal to start, and getting away sharply was followed two minutes later by Vedrines. The latter again proved that the Morane was the faster machine, and arrived at Exeter 2 minutes before "Beaumont," at ten minutes past six. He was away again at a quarter to seven, while "Beaumont" did not start again till twenty minutes after, his engine requiring a little attention. A straight course was set for Salisbury Plain, where Vedrines arrived at ten minutes past eight to be followed about twenty minutes later by "Beaumont." No sooner was "Beaumont's" machine reported to be in sight than Vedrines was anxious to be away, and as a matter of fact he started for Brighton after resting only thirty-three minutes, just about ten minutes after his rival landed. About nine o'clock there was a sharp shower of rain at Brighton, and this probably kept the general public away, so that when Vedrines arrived at three minutes to ten the crowd to welcome him was not very large. "Beaumont" did not leave Salisbury Plain until 9.47 and so was practically an hour after Vedrines in arriving at the Shoreham Aerodrome, which formed the control station at Brighton. He, however, had used up a good deal of his rest time and so was due to start before Vedrines on the last stage to Brooklands. He had 3 hours and 40 minutes to rest, and took advantage of this to have a little sleep and a rub down. Punctually at 1.28.15 he was in the air and winging his way to the Brooklands Motor Course, where he landed after a flight of practically forty minutes. Vedrines was not due to start from Shoreham until 2.41, when punctually to time he was away, reaching Brooklands at nineteen minutes past three. On his arrival at Brooklands, "Beaumont" was carried shoulder high, and after the officials had examined the seals, &c., on his machine and found them all in order he was declared to be the winner of the race and the £10,000 prize.

"Beaumont's" net time for the full course of 1,010 miles was officially given as 22h. 29m. 6s., and Vedrines' as 23h. 38m. 5s., so that the plucky and clever French naval lieutenant won by 1h. 8m. 59s.

The news that the aviators were on their way to Brooklands soon caused a large number of people to make their way there, and among the first to greet "Beaumont" was Lord Northcliffe, who also when Vedrines arrived presented him with a solatium of £200.

The only other competitors to progress during the day were Hamel and Valentine. Hamel got away from Edinburgh at 3.38 a.m., and reached Stirling at a quarter past four, but on restarting for Glasgow he broke down at Clarkston, but was able to resume, and got to Glasgow just before noon, in time to see Valentine leave at one minute past twelve. He himself re-started on the journey south at a quarter to one. Valentine reached Carlisle at 4.12, but Hamel had to come down about 14 miles from Dumfries.

TABLE OF COMPETITORS' TIMES, DISTANCES, &c. (UNOFFICIAL).

Flying No.	Pilot.	Machine.	Motor.	Hendon. Miles (26)	Harrogate. (182)	Newcastle. (68)	Edinburgh. (93)	Stirling. (31)
1	"Beaumont" ...	Blériot monoplane...	h.p. 50 Gnome	h. m. s. 0 20 3	h. m. s. 3 7 54	h. m. s. 1 8 50	h. m. s. 1 53 38	h. m. s. 0 46 32
2	H. J. D. Astley ...	Birdling monoplane	50 Gnome	0 24 16	Delayed by fog. Reached Harrogate on Tuesday evening.			
7	C. Compton Paterson	Grahame-White biplane	50 Gnome	0 27 52	Retired at Hendon.			
9	Jules Vedrines	Morane-Borel monoplane...	70 Gnome	0 19 48	3 3 4	1 8 22	1 47 35	0 39 36
11	G. Blanchet	Breguet biplane	80 Canton-Unné	0 26 9	Retired Streatley, wrecked on trees.			
12	Lieut. R. A. Cammell	Blériot monoplane...	70 Gnome	3 31 5	Retired through machine capsizing at Wakefield.			
13	M. Audemars	Blériot monoplane...	50 Gnome	0 25 13	Retired at Hendon through fog.			
14	James Valentine	Deperdussin monoplane	50 Gnome	0 22 41	3 16 57	1 22 0	2 2 0	0 38 48
17	C. P. Pizey...	Bristol biplane	50 Gnome	0 48 0	Damaged machine at Melton Mowbray.			
19	C. H. Pixton	Bristol biplane	60 Renault	0 27 9	Retired at Spofforth, damaged machine.			
20	S. F. Cody ...	Cody biplane	60 Green	0 25 18	4 56 30	Langley Moor, Durham, damaged chassis.		
23	Olivier de Montalent	Breguet biplane	80 Canton-Unné	0 29 24	Wetherby.			
24	Gustav Hamel	Blériot monoplane...	50 Gnome	0 21 45	7 40 43	2 32 8	15 9 0	0 32 9
25	Lieut. H. R. P. Reynolds	Howard Wright biplane	60 E.N.V.	1 41 56	Machine damaged at Harrogate.			
27	B. C. Hucks	Blackburn monoplane	60 Isaacson	2 15 4	Barton, engine trouble.			
28	C. T. Weymann	Nieuport monoplane	100 Gnome	0 58 17	Retired Leeds, damaged chassis.			
30	Lieut. H. Bier and Lieut. C. Banfield	Etrich monoplane	120 Austrian-Daimler	2 6 27	Retired Codicote, near Hatfield, damaged chassis.			

Flying No.	Pilot.	Glasgow. Miles (22)	Carlisle. (86)	Manchester. (103)	Bristol. (141)	Exeter. (65)	Salisbury. (83)	Brighton. (76)	Brooklands. (40)
1	"Beaumont" ...	h. m. s. 0 45 3	h. m. s. 2 13 30	h. m. s. 4 36 55	h. m. s. 2 55 7	h. m. s. 1 21 28	h. m. s. 1 26 55	h. m. s. 1 12 32	h. m. s. 0 39 51
9	Jules Vedrines	1 34 14	1 57 4	4 35 49	4 1 33	1 17 45	1 22 29	1 14 1	0 36 45
14	James Valentine	11 0 0	4 17 0						

FROM THE BRITISH FLYING GROUNDS.

Brooklands Aerodrome.

MR. O. C. MORISON was out early on Wednesday of last week on Messrs. Martin and Handasyde's "Dragon Fly," and was flying well. Mr. H. B. Brown, a pupil of the Blondeau School, passed for his certificate in good style during the morning, a gusty wind notwithstanding, making his altitude points at 200 ft., landing well in the first course at 10 yds., and in the second course within 12 yds. of the mark. The observers were Messrs. Manning and Fisher. Mr. Brown returns to America shortly. Mr. Raynham on the Avro-Farman was doing good flights over the sheds and carrying passengers. Lieut. Reynolds on Mr. Howard Wright's racing biplane made a fine flight at 1,000 ft., just to show what she was capable of, in anticipation of the big race. Later the racing Avro, with Mr. Kemp steering, made some straight flights. Lieut. Barrington-Kennett, of the Army Air Battalion, flew in from Salisbury, and was soon off again for a fly round. During this, a small breakage caused him to land at Cox's Mill, about 3 miles from Brooklands. There he stayed the night, and obtaining a new extension rod from Brooklands he got back at 9 a.m.

On Thursday Mr. Pequet was out with the Humber monoplane, and climbing up to 1,000 ft., he flew around Walton, Weybridge, Chertsey and the district, making a very successful flight of one hour's duration. Mr. Raynham, another of Mr. A. V. Roe's successful pupils, pluckily started for the Brooklands Duration Prize, making a fine flight in a gusty wind.

Later, indulging in a second effort, Mr. Kemp, on the racing Avro, flew a trial circuit, the engine running almost silent. Upon landing the cylinders were found to be heated owing to the radiator not circulating properly. Mr. Pequet was up again doing well in the high wind and flying for 5 minutes. Mr. C. H. Pixton, on a Bristol biplane, put in some time for the Duration Prize, and Mr. Percival, on the Billing biplane, was practising turns. Presently M. Beaumont was seen up for the first time at Brooklands, when on his Blériot he gave a masterly exhibition of flying at 1,500 ft. A trial spin of the Breguet biplane resulted in a climb to 2,000 ft. in marvellously short time. Later the pilot took up a passenger, the extra weight not seeming to lessen its climbing powers. Amongst other work going on was Lieut. Reynolds practising on the Howard Wright, Mr. Pixton and Mr. Raynham taking up passengers. At twilight Mr. Noel was last out on the Avro-Farman, still travelling well.

Lieut. Barrington-Kennett returned to Brooklands on Friday, and was then again off to Windsor and district, making a flight of about 50 miles and being up for 2 hours. Considerable interest

centred round the work of Mr. Perrin, the Secretary of the Royal Aero Club, who was putting the Aero Club's seals and marks on competitors' machines in the Circuit of Britain. Every now and again comes a buzz of excitement as an engine suddenly starts, causing a rush of spectators to see some aviator off. As each one rises the interested spectators regularly give a round of cheering. Hamel got out first, and making a magnificent ascent up to 3,000 ft., in full view over the hangars, started to descend with engine stopped, making a grand *vol plané* of 1½ mins. At the same time Beaumont was up on his Blériot, and Wynmalen, on No. 15 Deperdussin monoplane, made three successive flights at very fast speed. Audemars, also on a Blériot, also put in some rapid and pretty flights. Lieut. Watkins, practising on the R.E.P., unfortunately landed "à la pancake," fortunately with only a minimum of damage, a broken skid being the worst. Mr. Pixton was watched when out practising on his Circuit Bristol biplane, which is fitted with a 60-h.p. Renault engine. Graham Gilmour's new pattern racing Bristol duly arrived during the day. S. F. Cody was flying up to a late hour on his new miniature biplane. Lieut. Bier and his Etrich bird, with its small running wheels at the end of each wing, was the centre of an admiring crowd whilst testing the Austrian-Daimler engine. The engine is started with a crank handle, as with a motor car, by a mechanic, who sits in the machine just behind the propeller, and at a signal the pilot "switches on," and the propeller is off immediately at terrific speed. Mr. Percival took his certificate during the morning, flying his courses on the Billing biplane at 200 ft., the observers being Messrs. Cody and Gordon Bell in the first course, and C. H. Pixton and G. Bell the second.

M. Pierre Prier, when taking out the Bristol monoplane on Saturday morning, unfortunately had a smash which put him out of the Circuit Race.

Lieut. Porte, R.N., on his Deperdussin monoplane when testing had engine trouble and on landing broke a skid and wheel, which were, however, speedily repaired.

Graham Gilmour, in spite of the suspension, was out on his Bristol racer and going well. R. C. Kemp, on the racing Avro which had been remodelled, was making circuits about 1 o'clock at 100 ft., when a wing suddenly collapsed and the machine was precipitated to the ground, Mr. Kemp having a marvellous escape. The school Avro having met a similar fate the A. V. Roe type could not, unfortunately, be represented in the Circuit Race.

Later on Lieut. Barrington-Kennett, with Capt. Maitland as passenger, was making circuits, when in order to avoid running



CIRCUIT OF BRITAIN.—Chairing "Beaumont," the winner at Brooklands, upon his arrival.

down some people on the flying ground, made a sharp turn. Banking the machine, which was landing, the left wing caught the ground causing the under-carriage to twist, completely stripping it from the planes, the engine with broken propeller and planes being considerably mixed up. One of the skids was driven about 3 ft. into the earth but both aviator and passenger fortunately escaped without injury. Mr. Johnstone was the last man out for the day, carrying a passenger.

Early on Sunday morning, Wynmalen left for Hendon. The Martin-Handasyde "Dragon Fly" was taken out for trial flights by Graham Gilmour. After changing the propeller, the machine travelled well, making several circuits at 200 ft. The wings have been entirely reconstructed.

Both on Monday and Tuesday, the "Dragon Fly" was the only machine out, Mr. E. V. Fisher on both occasions piloting and making straight flights.

London Aerodrome, Collindale Avenue, Hendon.

Valkyrie School.—Mr. Perry was up at dawn on Thursday last week, and very busy with the school machine, making a great many flights at heights ranging from 30 ft. to 50 ft., and showing great improvement at the turns. Next day Lieut. Wells had the school machine in hand and put in a lot of good practice, flying steadily and well at good heights.

On Saturday Lieut. Wells was out again, and continued to exhibit excellent progress. Later on competitors in the *Daily Mail* Circuit arrived from Brooklands, and the ground having, of course, to be kept clear for them, there was no school flying.

On Monday morning during the start from Hendon of the *Daily Mail* Circuit competitors, Mr. Barber put up an excellent exhibition on one of his Type B military monoplanes. The get off was remarkably good, the machine ascending very fast, and as usual upon an even keel. Steady circles were described until the machine reached an altitude of well over 2,000 ft., the greatest height attained by any machine that morning. A beautiful *vol plané* descent was then executed, and numerous evolutions carried out. Then Mr. Barber took a friend up for a passenger ride, during which an altitude of about 500 ft. was attained, the descent being made by means of the usual *vol plané*.

Salisbury Plain.

ALTHOUGH the weather from a spectator's point of view was all that could be desired, the experienced aviator found the

atmospheric conditions on Thursday morning last week rather treacherous, and consequently no flying took place on that morning at the British and Colonial Aeroplane Co.'s School at Amesbury. In the evening, the conditions having improved somewhat, the Bristol pilots commenced operations, and M. Tetard took up Professor Petavel, a new pupil, for an instructional flight. M. Jullerot was also kept very busy with other pupils, taking up Messrs. Pitman and Stewart for instructional flights. A good number of pupils are now in the solo flight stage of their course, and will shortly be ready to qualify for their certificate.

The following morning, Friday, saw the dawn of a beautiful flying day, and the pilots of the Bristol machines were not slow to take advantage of the weather conditions. At the early hour of 4.30 a.m. tuition commenced with Mr. Pitman and Professor Petavel being taken up respectively by M. Jullerot. Mr. Watt then made a very fine cross-country flight, making two figures of eight round Stonehenge, and finishing with a beautiful *vol plané* from 60 ft. Flying continued till 7 o'clock, and the progress made by some of the pupils during the 3½ hours flying was really remarkable.

The usual activity was displayed by the staff of the Bristol Co. on Saturday. M. Tetard commenced operations by taking Messrs. Petavel and Pitman for instructional flights. He was soon followed by Capt. Watt, a pupil who is now in the solo flight stage of his course. He performed admirably, and if his work up to the present is anything to judge by, the date of his qualifying for his brevet is not far distant.

Work commenced at an early hour on Monday, M. Jullerot being kept very busy with his pupils. Excellent work was put in by Messrs. Petavel and Pitman, who are making very satisfactory progress. The other pupils are also progressing favourably and altogether the schools are in a very prosperous state.

Southport Aerodrome.

ON the 18th, Mr. Gaunt made several trips over the oreshore, keeping about 100 ft. up, flying very steadily. Mr. Hubert, flying Mr. Graham-White's Farman, at one time crossed over Mr. Gaunt, much to the delight of the crowd of holiday makers. Owing to high winds nothing further was done until Monday, when Mr. Gaunt made his most successful flight to date. Keeping 300 ft. high, he flew from the Pier to Crossens at a good speed, so steadily that the machine appeared to be travelling on a wire.

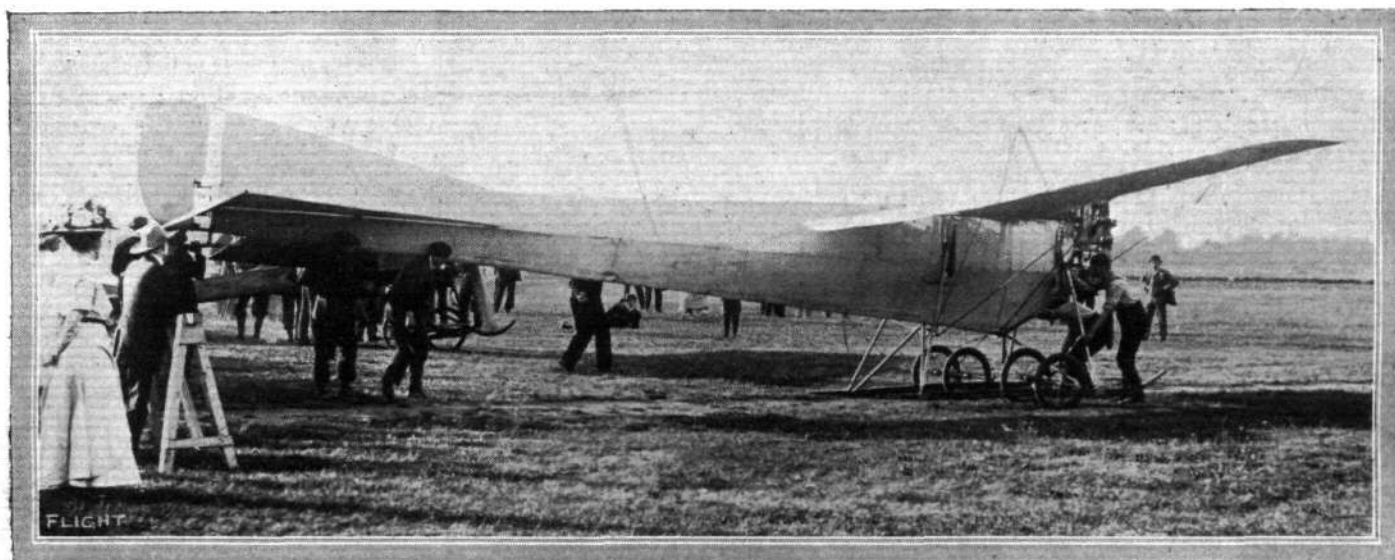


BRITISH NOTES OF THE WEEK.

The South Pole Monoplane.

THE monoplane of the R.E.P. type built by Messrs. Vickers, Ltd., at Crayford, for Dr. Mawson's South Pole Expedition,

having been completed, the initial tests were successfully carried out the other day on the firm's flying ground at Long Reach, Dartford, Brooklands being the scene of further trials.



DR. MAWSON'S POLAR AEROPLANE.—The above monoplane is doubly interesting as being one of the first machines built by Messrs. Vickers, Ltd., to the designs of Robert Esnault Pelterie (R.E.P.), and also because it has been ordered for use in connection with Dr. Mawson's expedition to the South Pole. The machine has the characteristic R.E.P. body, built of steel and surfaced with fabric. In front is the R.E.P. semi-radial engine direct coupled to the propeller.

Flying at Southport.

ALTHOUGH the elements have lately been unkind to Mr. Grahame-White when he has visited Southport, they were more gracious to his assistant, Mr. Herbert Hubert, last week. Using Mr. Grahame-White's Farman machine on the Wednesday evening, Hubert went up to a height of 300 ft. and made a little excursion outside the aerodrome. On his return he only remained on *terra firma* a few minutes and then getting up to a height of 600 ft. flew out in the direction of Hesketh Golf Links, and returning over the sands passed over the Winter Gardens and Pier and also over Mr. Gaunt, who was flying up and down the sands on his biplane. After being in the air a quarter of an hour a return was made to the aerodrome where three more short flights were subsequently made. On the following night Hubert was again in the air, and the second of two short flights was brought to a dramatic conclusion by engine trouble when at a height of 500 ft. The aviator was, however, able to bring his plane down safely, but flying had to be suspended for the evening, and shortly after rain began to fall heavily.

An Aviator Killed on the Road.

AN instance of the fact that aviation risks are not the only ones encountered by flyers was forthcoming last week when Mr. Benjamin P. Gamsa, a pupil at the Hendon Aerodrome, was killed while cycling there through a collision with a motor car. In all

probability fatalities in aviation are very much less, in proper ratio, to any other form of scientific sport, in spite of its very recent initiation.

Naval Airship No. 1.

THE latest report with regard to the naval airship at Barrow is to the effect that it may be expected to be seen again in the open in about three weeks time. During its retirement a good deal of strengthening has been done as a result of the experience gained during the short time the dirigible was out of her shed recently. Improvements have also been carried out with the moorings in the Cavendish Dock.

Balloon Adventure at Bisley.

THREE men of the Royal Engineers had an unpleasant experience on the 19th inst., when the balloon in which they had risen from Aldershot suddenly dropped from 4,000 ft. on to one of the ranges at Bisley quite close to where firing was in progress. The balloon bumped along the ground for about 150 yards before settling down.

Breguet Biplanes.

THE British agents for this machine, a description of which appears in FLIGHT, are Messrs. Arthur Turner and Co., 173, Piccadilly, W.

FOREIGN AVIATION NEWS.

A Notable Anniversary.

TUESDAY last, the day before "Beaumont" won the *Daily Mail* £10,000 prize, was the second anniversary of Blériot's cross-Channel flight.

Loridan Makes a Big Bid for the Michelin Cup.

TWO more records now stand to the credit of Marcel Loridan. On the 21st. inst. at Mourmelon he was flying for 10 hrs. 43 mins. net time in a try for the Michelin Cup, during which he covered 730 kiloms. His course was a little more than 100 kiloms., the turning points being at Cuperay, Chalons, and at Berry Aubac, Aisne. Under the rules stops are allowed for petrol, &c., and only completed circuits are counted, so that the officially recorded distance is 700 kiloms., while the gross time of the flight was 11 hrs. 33 mins. At the end of this time the aviator was very fatigued owing to the machine being buffeted about by the gusty wind. A photograph of the aviator appeared in our issue of July 15th, on page 615, at the time when he succeeded in beating the height record.

Tries for the International Michelin Cup.

ALTHOUGH it is not usual for the serious business of trying to win the International Michelin Cup to commence before the closing weeks of the year, Loridan has already set the ball rolling, and other seekers after record honours are making preparations to beat his splendid performance. Renaux has sent in his entry and proposes to make his attempt as soon as possible over a course between Buc and Chartres.

The Caudron School at Juvisy.

THE Caudron school, recently started under the charge of Demazel at Juvisy, is proving very popular and already a number of pupils have been enrolled. On the 18th, Demazel, carrying a full weight passenger, was flying for an hour on the school 28-h.p. Anzani-Caudron.

A Long Flight by Weiss.

LEAVING Lezignan, where he had been giving a series of exhibitions on his Pivot monoplane, Weiss on the 21st inst. flew to Narbonne and then back to Lezignan, covering the 150 kiloms. in masterly fashion.

Dispute over the Cannes Prize.

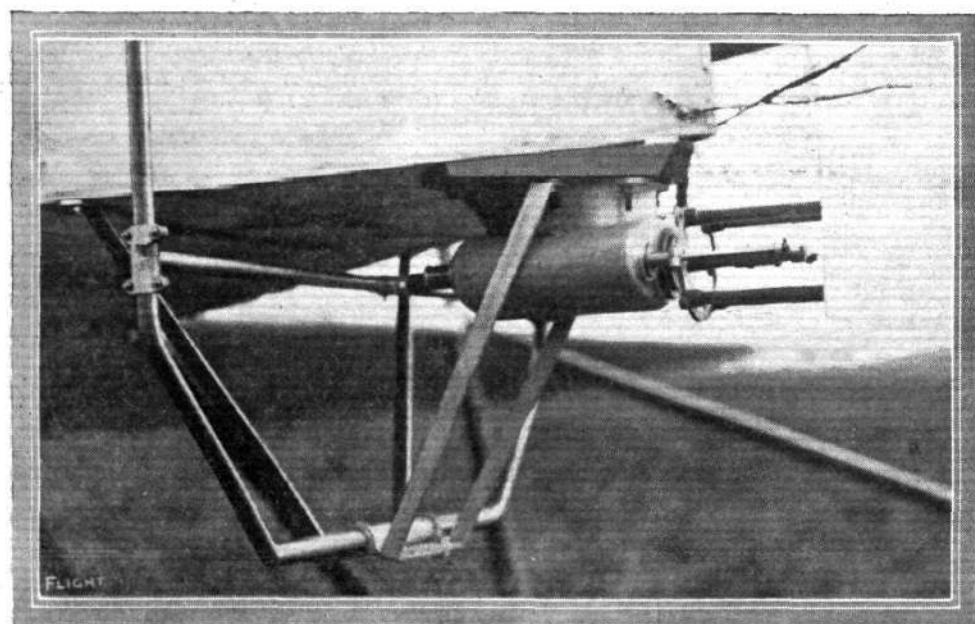
BEING unable to obtain payment of their prize money, amounting to £3,000, won at the meeting held at Cannes during March and April of last year, the aviators concerned have entered an action against the Mayor of the town and the organisers of the meeting.

Automatic Stability Tests in France.

ON the 21st inst. a series of experiments with an automatic stability apparatus were carried out at Villacoublay in the presence of General Roques, the Archduke Alexandre, Commandant Renard, MM. Painleve, Eiffel, Leon Barthou, &c. Lieut. Menard was at the tiller of a Henry Farman machine while Chevalier was piloting a Nieuport monoplane, and later Nieuport took up a passenger on his new military machine.

With the French Military Pilots.

TRYING for his superior *brevet* Lieut. Cayla on the 19th inst. flew from Buc to Chartres and back on his Farman machine, while Lieut. Battini was flying over Trappes, St. Cyr and Palaiseau, a performance which he repeated on the following evening. At Douai on the 21st Lieut. Gourlez was up for a continuous test of two hours on a Breguet, while Lieut. Ludman made a cross-country trip from Douai to Doullens and back.



THE DOUTRE STABILISER.—The apparatus illustrated above is being tried in France as a means of automatically stabilising aeroplanes. It is the invention of M. Doutre, and consists of a compressed-air cylinder suitably coupled up so that it can operate the usual control organs automatically. It is itself controlled by the pressure of the relative wind on the vane or panel, which will be noticed in front of the apparatus. The cylinder is charged from a pump driven off the engine, and is situated, on this particular machine, immediately beneath the pilot's car.

The French Army and Gibert's R.E.P.

AT the end of the European Circuit, the French military authorities requested Gibert to allow his R.E.P. machine, which completed the full course without being rebuilt in any way, to remain at Vincennes for a few days for inspection, &c. It was released on the 21st inst., when Gibert immediately mounted it and flew back to his headquarters at Buc.

Fatal Accident to Mme. Moore.

AT the present moment there are a good many ladies learning to fly in France and they appear to be unperturbed by the fatal accident to Mme. Denise Moore at Mourmelon on Friday of last week. The unfortunate lady, of whom little is known beyond that she came from Algeria, had been making splendid progress during the three weeks she had been learning and during her early solo flights showed great promise. She was, however, fired by an ambition for altitude work and on the day when the accident happened, in spite of the emphatic directions of her instructor, she started off to go high. She had only reached 150 ft. however, when apparently she made a mistake in steering, for the machine fell sideways to the ground, the pilot being killed instantly.

An Accident at Rheims.

WHILE flying at Rheims on the 21st inst., Lieut. Girard had a nasty smash. He was practising on his biplane when it was caught by the wind and flung to the ground. The machine was badly smashed, but as Lieut. Girard was able to stop the motor the wreck did not catch fire. The pilot was rescued suffering from severe contusions.

Flying along the French Frontier.

CONTINUING his series of reconnaissances along the French frontier, Lieut. Malherbe on his 50-h.p. Blériot flew from Sedan to Verdun on the 19th inst. Two days later he continued his journey, and starting at 4 a.m. reached Lunville at ten minutes past six.

Testing the New Military Voisin.

As a practical test of the new steel-tube Voisin machines, of which six have been ordered by the French Army, one of them, with a load of 300 kilogs. on board, was piloted by Colliex from Issy to Mourmelon on the 19th inst. The speed attained was 85 k.p.h., the test being officially observed by the military authorities. Two days later Colliex took a second machine over to Mourmelon in the same way, although a stop had to be made at Montmirail owing to ignition trouble. The average speed on the second trip was slightly more than 85 k.p.h.

A Bristol Biplane at Vichy.

DURING the evenings of last week a deal of flying was seen at Vichy, where Versupuy now has his Bristol biplane. He made a good many flights with passengers, and also flew over the town,

while on the 20th inst. he made an excursion to Riom and back. He proposes shortly to try and fly to the top of the Puy de Dôme.

A Fatal Accident at Juvisy.

ANOTHER fatal accident which might have been avoided by the aviator listening to the advice of competent friends occurred at Juvisy on Sunday evening last. The wind was very gusty and an experienced flyer like Ladougue found it impossible to continue, being forced to land somewhat abruptly. Joly, who had just obtained delivery of a racing biplane fitted with a 70-h.p. Gnome motor, was very desirous of having a trial flight with it, and despite the advice of Ladougue and other friends would insist on going up. He made two circuits of the ground at a height of 80 metres and at a speed of about 100 k.p.h. While outside the boundary of the aerodrome he was seen to be in difficulties, and after making two short turns his machine crashed to the ground between the fence and the railway, the pilot being instantly killed.

Flying over Berlin.

LEAVING the Johannisthal flying ground on the 20th inst. the Swiss aviator Rupp followed the course of the Spree to Berlin, from whence after circling over the Column of Victory in the Tiergarten he returned over the river to Johannisthal, but instead of landing there went on to Friedersdorf, close by Storkow, where he landed for petrol, afterwards flying back to Johannisthal. He was using one of the German-built Albatross biplanes fitted with a 70-h.p. Gnome motor. It will be interesting to see if any official action is taken, as it will be remembered that Latham and Frey were fined for flying over the German capital.

Heinke has a Fall.

WHILE experimenting at Canstatt with one of his monoplanes on which he has attained considerable success, Heinke had a bad fall on Thursday of last week. He was at a height of between 600 and 700 feet, when in making a turn the machine capsized and crashed to the ground. The pilot was severely injured, especially by burning.

A Cyclone at Milan.

A CYCLONE which visited Milan on the 20th did a great deal of damage at the flying ground. Five hangars were completely destroyed, as well as the machines contained therein, while ten others also suffered severely. It is estimated that the damage will cost about £6,000 to make good.

Wright Bros. and Mr. Sopwith.

AFTER a period of quietude, the Wright Bros. appear to be once more on the warpath in the matter of their patents, as a cable from New York states that Mr. Tom Sopwith has been cited to appear in the Circuit Court on August 7th as defendant in an action for infringement of the Wright patents. Mr. Sopwith is entered for the forthcoming Chicago meeting, at which the prizes amount to £16,000.

PROGRESS OF FLIGHT ABOUT THE COUNTRY.

NOTE.—Addresses, temporary or permanent, follow in each case the names of the clubs, where communications of our readers can be addressed direct to the Secretary. We would ask Club Secretaries in future to see that the notes regarding their Clubs reach the Editor of FLIGHT, 44, St. Martin's Lane, London, W.C., by first post Tuesday at latest.

Aero Models Association (South-Eastern Branch).

AN open model flying competition is to be held on the Golt Links, Mitcham Common, Surrey, to-day, Saturday, at 3 p.m.

Parkside Aero Club (2, EDBROOKE ROAD, PADDINGTON).

A GENERAL meeting will be held on Monday, July 31st, when new members will be welcome, and are cordially invited. The club has for discussion a matter concerning the running of a gliding and flying school for full-size machines, and also suitable ground which has been secured. Gentlemen interested kindly communicate with secretary.

New Model Clubs.

MR. REGINALD C. PRYER, of 22, Chestnut Avenue, Crouch End, N., is desirous of getting in touch with anyone interested in model aeroplanes in the neighbourhood with the idea of forming a club. With the same purpose in view, Mr. Tom Brown, 32,

The British Association and Flight.

FLIGHT will come in for quite a good deal of attention at the meetings of the British Association which open at Portsmouth on August 28th. The Mathematical and Physical Science and the Engineering Sections will have a joint meeting at which the debate

Blackbrook Road, Haydock, St. Helen's, would like to hear from anyone in his district interested in such a proposal.

SCHOOL AERO CLUBS.

Arundel House School Ae.C. (15, ARLINGTON ROAD, SURBITON).

ON Tuesday, the 11th inst., R. F. Mann, flying the Mann monoplane, No. 47, at the Hook Aerodrome, made two consecutive flights of 78 and 82 secs. duration, thus beating the club records of 70 and 74 secs. previously held by him.

The Holt School Ae.C. (BAGOT ST., WAVERTREE, LIVERPOOL).

THE above club was started on March 30th, when a number of aeronautical lantern slides were shown by Mr. Robert N. Harrison. Mr. Harrison also gave a demonstration with paper gliders and a Twining No. 1 model biplane, all of which made excellent flights. The club has now obtained materials for a Chanute-type man-carrying glider, and will start upon the work of construction after the summer holidays.

will be on "Mechanical Flight," opened by Mr. A. E. Berriman, Technical Editor of FLIGHT, while the Geographical Section will have a discussion on "the Airman's Requirements," opened by Capt. Bertram Dickson, and it is hoped that several members of the Army Air Battalion will join in the discussion.

MR. GRAHAM GILMOUR AND THE ROYAL AERO CLUB.

FOLLOWING the notice of suspension of Mr. Gilmour's aviator's certificate, as announced by the Royal Aero Club last week, a writ was issued by the British and Colonial Aeroplane Co., Ltd., and Mr. Gilmour to restrain the Club from continuing the suspension of his certificate. This came on in private before Mr. Justice Channell in Chambers, on the 20th inst., who refused to make any order against the Club. From this Mr. Gilmour appealed, and the case was before Lords Justices Vaughan Williams, Fletcher Moulton, and Buckley, in the Court of Appeal on the 21st.

Mr. Clavell Salter, K.C., appeared for the appellant, and Mr. Theobald Mathew for the Royal Aero Club.

Mr. Salter said that the British and Colonial Aeroplane Company, Ltd., the first-named plaintiffs, built the aeroplane which Mr. Gilmour proposed to use, and they had spent some thousands of pounds upon it, and in addition had paid the £100 entrance fee to enable Mr. Gilmour to take part in the contest. His contention was that the Royal Aero Club had no power under their rules to suspend Mr. Gilmour's certificate, which they themselves did not grant. The certificate was issued to Mr. Gilmour by the French Club, with the assent of the Royal Aero Club, Mr. Gilmour being a British subject, which was sufficient to enable him to take part in the race. Each affiliated club recognised the certificates of the other affiliated clubs, but he also submitted that the Royal Aero Club had no right to suspend him without giving him a proper hearing, as provided by their own rules.

Counsel then read a long affidavit by Mr. Gilmour, who said, although it was desirable that an aviator should avoid passing over cities, towns and populous districts as far as possible, if any hard-and-fast rule were made aviation would be absolutely impossible. After describing what had been done on the occasion of great races, when aviators landed in populous places, he stated that on the 6th inst. he flew from the Brooklands track and struck the Thames at Weybridge. He followed the course of the river to Wapping, then turned, and took the same route back. The Committee of the Aero Club discussed the matter with him, because people had written that they saw him circle St. Paul's Cathedral, which he denied, and the Committee decided that they had no reason to complain in respect of that flight.

On the 18th inst. he called at the Club premises for letters, and was told that the Committee wished to see him. He went into the Committee room, where Mr. Roger Wallace was presiding.

The Chairman then said, "Now we have to go into this matter of flying at Henley." He went on: "It has been reported to us that you flew dangerously at Henley." I asked him to read me the report. A long, rambling letter was then read, evidently the composition of a man who knows nothing about flying.

The Committee then requested me to tell them about the flight. I told them I flew from Brooklands to Henley, and flew over the river and twice up and down the course at an altitude of 400 ft. to 500 ft. On the last return journey, there being a wide expanse of water which had been cleared for a race, I swooped down and touched the surface of the water with the rubber of my tyres on the wheels of my runners, all four touching together. I then immediately ascended, and went up about 300 ft., and landed in a field close by.

It is obvious that there could be no danger in my swooping down and touching the water as there was ample room for me to do so. The only thing that could have happened would have been for the machine to have stopped through fouling the water; in that case I should have got a ducking, to the amusement of the public and the great discomfort of myself, but without any danger to anybody. And taking into consideration the other parts of the performance, when I was flying at a height of 400 ft. to 500 ft. there was absolutely no danger to the public on the river as I did not pass over their heads too low down but only over the course.

They asked, "What would have happened if your propeller came in contact with the water?" I told them it would not, and continued to assure them so that they pressed for an answer, and said, "Suppose it had?" I said it would have splintered.

They then asked me to retire, and in a few minutes they requested me to re-enter the room, and the Chairman said: "We have decided to suspend your certificate for one month from to-day." . . . They refused to allow me an opportunity of going into the matter or answering the allegations against me.

A supporting affidavit was then read from the solicitor to the plaintiffs, Mr. Staplee Firth, which contained the following passage:—

The said Sir George White (Director of the plaintiff Company) also informed me, and I verily believe that the time is so short that it is impossible for him to supply another pilot to fly in the race, as the machine has been built specially for Mr. Gilmour; and even if

this was not the fact, there is now insufficient time to supply another pilot.

An affidavit sworn by Mr. Wallace in behalf of the Royal Aero Club, stated that by one of the regulations of the Royal Aero Club the practice of flying to the danger of the public is dealt with as follows: "The practice of flying unnecessarily over towns or thickly populated areas is considered to be not only fraught with considerable risk to the public, but also useless in furthering the progress of aviation. The Royal Aero Club has formed a special committee to deal with such cases as may come to its notice and to inflict such penalties as it may think necessary upon any of its members or certified aviators who may make such undesirable flights."

Articles 23 and 24 of the Statutes et Règlements of the International Aeronautical Federation, bearing date 1909, are in the following terms:—

Rule 20. The penalties pronounced by the duly authorised body of one of the federations or clubs of the International Aeronautical Federation against one of its aeronauts or one of its pilots, or against a foreign aeronaut or pilot, taking part in a contest organised on its territory, shall be upheld and applied by all the federations or clubs of the International Aeronautical Federation. Rule 24: Should any aeronaut or pilot be disqualified or suspended, such disqualification or suspension shall operate and take effect from the day on which such penalty is pronounced, and all engagements, even those entered into at a prior date, shall be cancelled forthwith.

The affidavit further stated that on three occasions Mr. Gilmour had been reported to have made flights which were dangerous to the public. The affidavit then recited what was done at the interview with Mr. Gilmour on July 18th.

Mr. Salter, continuing his argument, submitted that the Royal Aero Club might have censured Mr. Gilmour under their rules, but they had no power to suspend his French certificate. A further objection was that the rules did not apply to aviators at all, but only to aeronauts, or balloonists, and to pilots, or those who took charge of flying balloons.

The Club had power to make by-laws. The English Club had jurisdiction over the Federation certificate.

The course open to the Club was either to use their powers to suspend him as a member of the Club or to report him to the French Club. The English Club had a right to punish him for flying over the river at Henley, but they did it in the wrong way by suspending his French certificate of proficiency.

Lord Justice Vaughan Williams: I think it is perfectly obvious that this committee did act without giving a proper opportunity to Mr. Gilmour to call his evidence, and put before them his view of the facts. Whether the penalty is one which has properly been inflicted or not it seems to me that a member of the Club has a right to say, "I ask you to restrain this committee from doing something without giving me a proper hearing, according to the rules and to natural justice."

Mr. Salter: It is by no means clear that the matter has been dealt with by the special committee at all. I gather from Mr. Wallace's affidavit that the special committee was not called, but that it was the ordinary Committee of the Club.

Mr. Mathew: The special committee has been dissolved, and the matter was dealt with by the Executive Committee.

Mr. Salter: Then the committee which has this power of inflicting penalties is a non-existing body, and there is nothing under the rules to justify a discretionary penalty.

Mr. Mathew, arguing for the Club, submitted that if the propeller had touched the water at Henley, it would have been a serious matter for the public.

Lord Justice Vaughan Williams: I should say it would have been a serious matter for the aeroplane.

Lord Justice Moulton: I think you have clearly proved, Mr. Mathew, that you have not taken away the certificate. The general Committee has no power to deal with these matters.

Lord Justice Vaughan Williams, in giving judgment said for the purposes of this motion we are of opinion that the action of the committee purporting to suspend Mr. Gilmour's French certificate has not been effectual to suspend the same, and we do not think fit to make any order. His lordship proceeded to state that under the rules of the Club the practice of flying to the danger of the public was to be dealt with by a special committee, with power to inflict such penalties as it might think necessary. The Court not only approved the practice of the Aero Club, as set forth in Mr. Wallace's affidavit, and agreed with the declaration that flying over crowded places was unnecessary, useless, and highly dangerous, but they also agreed that it was very desirable that the Club should use its powers to prevent, as far as it could, any such practice, and

prevent it, if necessary, by discipline applied by the Club to its members, consistent with the regulations and constitution of the Club. He did not know why the special committee had been dissolved, but he hoped either it might be reformed or that there might be such an amendment of the rules as would provide for the appointment of a proper committee to perform the function of checking dangerous practices in aviation.

Lord Justice Moulton agreed. Nothing that the Club had done interfered with the continued existence of the efficacy of Mr. Gilmour's certificate.

Lord Justice Buckley also agreed. There was nothing in the rules which showed that the English Club had power to suspend a certificate granted by a French club. He could not part with the case without saying that Mr. Gilmour, in his affidavit, had deposed

to facts which convinced him that an urgent case had arisen for the Club to see that the safety of the public should be properly guarded during aeroplane exhibitions, and he was glad the Club did intervene in this case. In disposing of this matter they were not intimating that the proper authority, whoever it was, might not have regard to these facts, and take such action upon them as they might think to be right.

Mr. Salter asked for costs, on the ground that his client had substantially succeeded.

Lord Justice Buckley: He went to the judge for an injunction and failed to get it; and he came here for an injunction and failed to get it. How has he substantially succeeded? He never had occasion to come to the Court at all.

Costs both here and below were made costs in the cause.

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CORRESPONDENCE.

. The name and address of the writer (not necessarily for publication) MUST in all cases accompany letters intended for insertion, or containing queries.

Correspondents communicating with regard to letters which they have read in FLIGHT, would much facilitate ready reference by quoting the number of each such letter.

Aeroplanes in War.

[1274] I venture to think that Mr. Atkinson's article should not be allowed to pass without a little friendly comment.

There is no doubt that the most important function of the aeroplane at present is scouting. All soldiers are agreed as to that. Occasionally they will undoubtedly be used to convey important messages, as suggested in this article. But as a rule, in cases such as that in the campaign of 1796, the telegraph will do all that is required. No important column would move without telegraphic communication with its base, and messages from the head of one column would take but a few minutes to reach the other. In many cases wireless could probably be used. But this is a comparatively small matter. The really important errors are in the bomb dropping proposals! Mr. Atkinson apparently neglects altogether the horizontal velocity imparted to the projectile by the movement of the air in which the aeroplane is moving at the time, the effect of air resistance, the fact that this resistance varies with the sectional density of the projectile, and the fact that the reading of the anemometer *may* give the speed of the aeroplane through the air, but cannot, except in a dead calm, give the pace it is travelling over the ground. These are all matters that have to be carefully worked out. There is, besides, the question of "terminal velocity," or the maximum velocity which a projectile of any particular sectional density can attain in falling.

As to the proposed apparatus, the least cant of the machine would move the telescope off the target, the least end tilt would mean that the bomb was released at the wrong time. It is not stated that any part is to be hung in gimbals.

The barometer is, of course, always graduated to read height as it is. A more practical proposal would be, I think, to graduate in degrees and minutes corresponding to the allowance necessary for travel of the machine at its normal speed. This would have to be corrected for the estimated movement of the air through which the machine was travelling at the time. This correction could well be applied by having a movable face to the dial. Then a side movement of the telescope is necessary to allow for deflection. No such matter seems to have been taken into consideration.

As for warfare between aeroplanes, there is no doubt that for its weight a machine-gun like the Maxim would give the best results. The great difficulty is to mount it so that it can get a large field of fire, and its cartridge-cases can fall free of the propeller, controlling wires, &c.

The attack on a dirigible from above is simplicity itself. A can of petrol ignited, corrosive acids, even a large spanner, dropped on the envelope, would be fatal. Many people seem to think that a comparatively small height is sufficient to ensure safety from rifle fire. Mr. W. F. Reid recently said that he thought 2,000 ft. would be sufficient. This view the writer does not share. The German infantry are already taught to aim from two to ten lengths ahead of aeroplanes, according to the range, and in my opinion it will be necessary to ascend to a height of from 4,000 ft. to 5,000 ft.

Mr. Reid said on the same occasion that he considered that the sudden release of even 1,000 lbs. from a dirigible would capsize it. This view is, I believe, not held by all experts. They point to the case of the "Patrie," the envelope of which travelled several hundred miles after the weight of the engines and car was suddenly taken off. Possibly it is not altogether a case in point.

R. A. (Retired).

Speed Alarm for Aeroplanes.

[1275] The enclosed photo, and description appended, of an acoustic speed alarm, may be of interest to your readers.

It consists, as will be easily seen, of a tube closed at one end by

a movable piston, and provided with a mouth near the other end, which can be partially closed by a cylinder, provided with wind ways, sliding inside the bore of the tube.

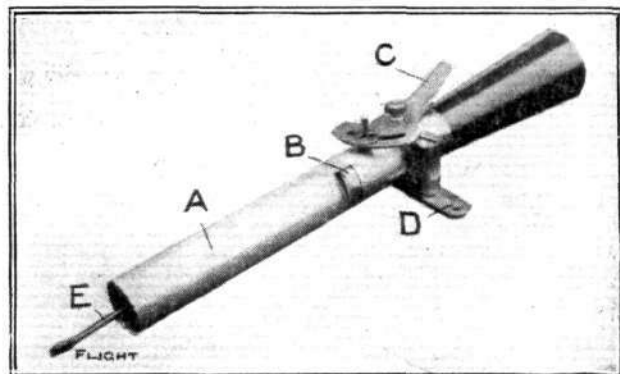
A funnel or air collector is shown at the open end of tube.

The height of the mouth or windway is varied as required by moving the slotted quadrant, which can be locked in position by the milled nut.

When the aperture or mouth is nearly closed the tube can be made to give its fundamental tone at a very low pressure, and as the pressure is increased the tube will suddenly break into a tone about an octave and a half higher in pitch, and thus the instrument can be made to sound either at a very low speed or at a dangerously high one, or both these, as required.

As the inside cylinder in the bore of tube is withdrawn by the quadrant the air pressure required to produce any tone is increased, but the tone becomes much more strident, as might be expected.

An inexperienced pilot might find it extremely useful to use the low pressure as a means of indicating when he had attained to the



speed necessary for rising from the ground, and the high pressure overtone for indicating a dangerously high speed, while a practised aviator would probably only use the device at high speeds, and with the internal cylinder set to give a wide mouth.

In the photo, A is the main tube, B the internal cylinder, C the slotted quadrant, D the bracket for fixing the device to aeroplane, and E the rod for moving the piston at closed end, in order to afford a slight adjustment in pitch of tone if required.

I may add that the device is protected, and I should be very glad to hear from any interested reader of FLIGHT with a view to arranging a practical trial. Perhaps I had better say that this particular instrument has a 1½ dia. tube, and that the whole affair is about 13 inches long, and weighs about 2 lbs., but both size and weight are unnecessarily great.

Harlesden.

THOS. B. RINGWOOD.

Flying Bulletins.

[1276] In reply to Mr. A. E. Dunbar's letter in your issue of the 15th inst., in which he says he only saw one machine out, taking the Brooklands report in FLIGHT for that day, it will be found that flights were going on all day from early morn till dusk. Just to mention the aviators' names who were flying, "Mr. Blondeau out with pupils," Messrs. Pashley, Pequet, Macfie, Cure, Pixton, Napier, Captain Brooke-Popham and Mr. Graham Gilmour, a host in himself, giving a long drawn out *vol plané* from a height of 2,000 feet. Not a bad shillingsworth this. As regards our branches announcing the wind, the vagaries of our climate make it impossible to say what the wind will be like in the next few hours, but the public are at liberty to call in at any branch and ask the manager to ring up Brooklands to ask if there is flying.

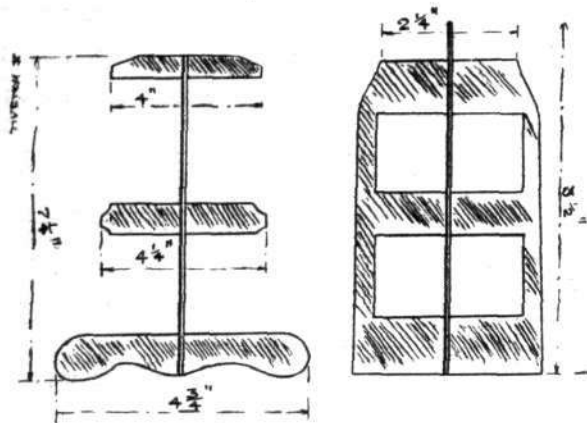
Brooklands.

KEITH, PROWSE AND CO.

MODELS.

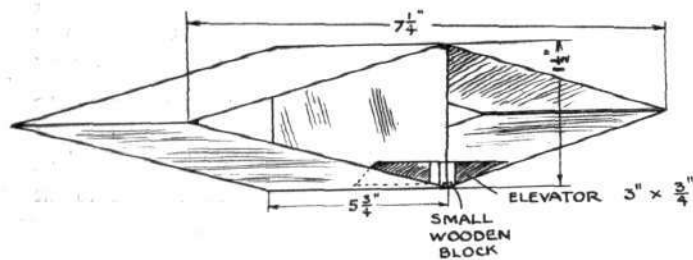
Paper Models.

[1277] Two paper models that are somewhat peculiar, but have, nevertheless, flown very well, are shown in the sketches, and may



be of interest to other readers of FLIGHT, who appear to be devoting considerable attention to this important field of experiment.
E. HALSALL.

[1278] As many of your readers seem to be interested in making



paper models, I send a sketch of one that is uncommon, with which I have had some excellent results.
HULL.

C. MARR.

What are Freak Models?

[1279] With many others, I have been very much interested in the discussion re "Freak" models and "Duration." Mr. Grimmer, in his article on school aero clubs in your number of July 1st, holds up, as the horrid example of a freak to be avoided, the idea of a model of 16 in. span with two 12 in. propellers. Has anyone built one? And would it be quite so easy to build and fly as Mr. Grimmer seems to think? With regard to duration, Mr. Ridley states he "timed" Mr. Holmes' machine to do certain flights, and yet Mr. Grimmer refers to these as "estimated." Does Mr. Grimmer "estimate" flights he takes note of? Otherwise, the change of word is hardly within the ethics of polite discussion.

Barnes, S.W.

GEORGE ROWLANDS.

[1280] Your correction of the error which I pointed out on the 15th inst. (1269) was itself mis-printed, although Mr. Grimmer has rightly guessed that the particular model I meant was the Fleming-Williams "Flamingo."

Mr. Grimmer, in his reply (1270) to my letter about freak models, has very kindly answered several statements which I did not make, and has altogether ignored my chief point, viz., that the models which fly longest and farthest are the most efficient.

If he will read my letter again carefully he will see that I said nothing to the effect that the power-plant and petrol on a full-size aeroplane is as much as two-thirds the total weight. What I did suggest was that in both full-size flyers and models the "fuel" (i.e., the petrol or elastic, as the case may be) should form as large a proportion as possible of the total weight of the flyer.

Personally I have never seen a model with two 12-inch screws and a span of 16 inches, and should not think it would be a great success. If such a machine does fly it certainly ought to be fast, and should teach the designer quite a large number of useful facts about air resistance, stability, aerocurve, &c., at high speeds.

Mr. Grimmer has misunderstood what I said about prizes, and I myself cannot follow the drift of what he says about rating. "The present methods of rating," he says "certainly encourage the model-maker who is simply out to win." I think myself that all the competitors in a contest enter with the intention of doing their best to win, and fail to see what other purpose they can have.

Unless models are intended actually for copying full size, I think they should be rated by weight of rubber alone, as this would encourage combined lightness and strength in the frame, and also efficiency in the planes and propellers.

I should very much like to know what Mr. Grimmer calls "official" flights. He may be interested to know that with my own models (which, by the way, I did not so much as mention in my letter) I have made flights of over 2,000 feet, as well as others of over 74 seconds. The Ridleyplane, another model which Mr. Grimmer refers to in 1259, has covered as much as half a mile in one flight.

Thames Ditton.

D. C. HOLMES.

Model Duration Records.

[1281] Re letter 1268, Mr. Ridley is perfectly correct in assuming that I do not think anyone can beat the duration of the Mann monoplane, which now stands at 89 secs. I am pleased to see that Mr. Holmes has taken up my challenge, and if he does anything in excess of the 74 secs. I mentioned, I shall be the first person to congratulate him. I hope, however, that he will make public the diameter of his propellers and the weight of his elastic, two important factors of efficiency. Also, may I ask him to name a date in August and to nominate one of the two timekeepers?

Surbiton.

ROBERT P. GRIMMER.

Owing to the heavy pressure on our columns this week, much Correspondence and other regular features are again held over.

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- 1,784. H. JUNKERS. Flying machines.
- 3,627. C. E. RITTER. Flying machines.

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